

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—HALLUCINATIONS.

By EDMUND GURNEY.

1. *Definition.*

Is it possible to treat Hallucinations as a single class of phenomena, marked out by definite characteristics? The popular answer would no doubt be Yes—that the distinguishing characteristic is some sort of false belief. But this is an error: in many of the best known cases of hallucination—that of Nicolai for instance—the percipient has held, with respect to the figures that he saw or the voices that he heard, not a false but a true belief, to wit, that they did not correspond to any external reality. The only sort of hallucination which is necessarily characterised by false belief is the purely non-sensory sort—as where a person has a fixed idea that everyone is plotting against him, or that he is being secretly mesmerised from a distance. Of hallucinations of the *senses*, belief in their reality, though a frequent, is by no means an essential feature; a *tendency* to deceive is all that we can safely predicate of them.

If we seek for some further quality which shall be distinctive of both sensory and non-sensory hallucinations, the most hopeful suggestion would seem to be that both sorts

are *idiosyncratic and unshared*. However false a belief may be, we do not call it a hallucination if it has "been in the air," and has arisen in a natural way in a plurality of minds. This is just what an *idée fixe* of the kind above mentioned never does: A may imagine that the world is plotting against him; but B, if he spontaneously evolves a similar notion, will imagine that the world is plotting not against A, but against himself. Instances, however, are not wanting where the *idée fixe* of an insane person has gradually infected an associate¹; and as contact between mind and mind is, after all, the "natural way" of spreading ideas, we can make no scientific distinction between these cases and those where, *e.g.*, the leader of a sect has instilled delusive notions into a number of (technically) sane followers. But again, hallucinations of the *senses* are also occasionally shared by several persons. Most of the alleged instances of this phenomenon are, no doubt, merely cases of *collective illusion*—an agreement in the misinterpretation of sensory signs produced by a real external object; but, as the result of wide inquiries, I have encountered several instances of genuine and spontaneous *collective hallucination*. If, then, sensory and non-sensory hallucinations agree in being as a rule unshared, they agree also in presenting marked exceptions to the rule; which exceptions, in the sensory species, are of a peculiarly inexplicable kind. The conclusion does not seem favourable to our chance of obtaining a neat general definition which will embrace the two species; and, in abandoning the search for one, I can only point, with envy, to the convenient way in which French writers are enabled not to combine but to keep them apart, by appropriating to the non-sensory class the words *délire* and *conception délirante*.

Let us then try to fix the character of *hallucinations of the senses* independently. The most comprehensive view is that *all* our instinctive judgments of visual, auditory and tactile phenomena are hallucinations, inasmuch as what is really nothing more than an affection of ourselves is instantly interpreted by us as an external object. In immediate perception, what we thus objectify is present sensation; in mental pictures, what we objectify is remembered or represented sensation. This is the view which has been worked out very ingeniously, and for psychological purposes very effec-

¹ See Dr. G. H. Savage's Note on the "Contagiousness of Delusions," in the *Journal of Mental Science*, Jan. 1881, p. 563; and the paper on "Folie à Deux," by Dr. Marandon de Montyel, in the *Ann. Médico-psych.*, 6th series, vol. v., p. 28.

tively, by M. Taine;¹ but it is better adapted to a general theory of sensation than to a theory of hallucinations as such. To adopt it here would drive us to describe the diseased Nicolai—when he saw phantoms in the room but had his mind specially directed to the fact that they were internally caused—as *less* hallucinated than a healthy person in the unreflective exercise of normal vision. I prefer to keep to the ordinary language which would describe Nicolai's phantoms as the real specific case of hallucination. And I should consider their distinctive characteristic to be something quite apart from the question whether or not they were actually mistaken for real figures—namely, their marked resemblance to real figures, and the consequent necessity for the exercise of memory and reflection to prevent so mistaking them. The definition of a sensory hallucination would thus be *a percept which lacks, but which can only by distinct reflection be recognised as lacking, the objective basis which it suggests*—where *objective basis* is to be taken as a short way of naming the possibility of being shared by all persons with normal senses.² It may be objected that this definition would include illusions. The objection could be obviated at the cost of a little clumsiness; but it seems sufficient to observe that illusions are merely the sprinkling of fragments of genuine hallucination on a background of true perception. And the definition seems otherwise satisfactory. For while it clearly separates hallucinations from *true perceptions*, it equally clearly separates them from the phenomena with which they have been perpetually identified—the remembered images or *mental pictures* which are not perceptions at all.³ It serves for instance to distinguish, on the lines of

¹ *De l'Intelligence*, p. 408, &c.

² I have indeed referred above to *collective* hallucinations; but they may fairly be excluded here, not merely because they are very exceptional, but because it is a nice question for Idealism to determine how far, or in what sense, they lack an objective basis. To put an extreme case: suppose all the seeing world, save one individual, had a visual percept, the object of which nevertheless eluded all physical tests. Would the solitary individual be justified in saying that all the others were victims of a subjective delusion? And if he said so, would they agree with him?

³ M. Taine's definition and mode of treatment become unsatisfactory here. Regarding perceptions as in essence hallucinations, he naturally regards mental images—since they are the shadowy representatives of former perceptions—as hallucinations *of an embryonic sort*. This metaphor commits him to showing how the embryo may develop into the full product—which will happen if the mental image be then and there externalised, as is often the case in delirium. The result of this transformation is inevitably a *false* hallucination; and a special connexion is thus suggested

common sense and common language, between the images of "day-dreams" and those of night-dreams. In both cases vivid images arise, to which no objective reality corresponds; and in neither case is any distinct process of reflection applied to the discovery of this fact. But the self-evoked waking-vision is excluded from the class of hallucinations, as above defined, by the point that its lack of objective basis can be and is recognised *without* any such process of reflection. We have not, like Nicolai, to consider and remember, before we can decide that the friends whose faces we picture are not really in the room. We *feel* that our mind is active and not merely receptive—that it is the mind's eye and not the bodily sense which is at work; without attending to this fact, we have it as part of our whole conscious state. Dreams on the other hand are, as a rule, pure cases of hallucination, forcing themselves on us whether we will or no, and with an impression of objective reality which is uncontradicted by any knowledge, reflective or instinctive, that they are the creatures of our brain.

But, though our definition may be sufficient for mere purposes of classification, it takes us but a very little way towards understanding the real nature of the phenomena. It says nothing of their origin and, though it distinguishes them from mere normal acts of imagination or memory, it leaves quite undetermined the faculty or faculties actually concerned in them. And when we pass on to these further points, we find ourselves in a most perplexed field, where doctors seem to be as much at variance as philosophers. The debate, most ardently carried on in France, has produced a multitude of views; but not one of the rival theorists seems ever to have convinced any of the others. Still progress has been made, to this extent at any rate, that it is now comparatively easy to see where the disputed points lie, and to attack them with precision.

2. *The Dual Nature of Hallucinations.*

It was of course evident from the first that there was a certain duality of nature in hallucinations. In popular language, the *mind* and the *sense* were both plainly involved:

between mental images and one particular sort of percept, namely the *incorrect* sort. But in ordinary experience, mental images are of course far more closely and constantly connected with *correct* percepts, M. Taine's *true* hallucinations, whose relics and representatives they are, than with *false* hallucinations, into which not one in a million of them is ever transformed.

the hallucinated person not only *imagined* such and such a thing, but imagined that he *saw* such and such a thing. But in the early days of the controversy, the attempts at analysing the *ideational* and the *sensory* elements were of a very crude sort. The state of hallucination used to be treated as one in which ideas and memories—while remaining ideas and memories and not sensations—owing to exceptional vividness took on the character of sensations. It was not clearly realised or remembered that sensations have no existence except as *mental* facts; and that, so far as a mental fact takes on the character of a sensation, it *is* a sensation. This was clearly stated, as a matter of personal experience, by Burdach and Müller; in the French discussions, the merit of bringing out the point with new force and emphasis belongs to Baillarger.¹ He showed that when the hallucinated person says "I see so and so," "I hear so and so," the words are literally true. If the person goes on to say "You ought also to see or hear it," he is of course wrong; but when he says that *he* sees or hears it, his statement is to be taken without reserve. To *him*, the experience is not something like or related to the experience of perceiving a real external object: it is *identical* with that experience. To the psychology of our day this may seem a tolerably evident truth. Still it is easy to realise the difficulty that was long felt in admitting that any experience that was dissociated from the normal functions of the sense-organs could be completely sensory in character. Popular thought fails to see that the physical question which for practical purposes is all-important—whether the object is or is not really there—is psychically irrelevant; and a man who has been staring at the sun will, as a rule, think it less accurate to say that he *sees* a luminous disc wherever he looks than to say that he *fancies* it. The best corrective to such a prejudice is Delbœuf's experiment, which—though doubt-

¹ In the long and rather barren debates which took place in the *Société Médico-psychologique* during 1855 and 1856, Baillarger, no doubt, insisted too strongly on an absolute gulf between percepts (true or false) and the ordinary images of fancy or memory. But his opponents made a far more serious mistake in so far identifying the two as not to perceive a difference of *kind*, at the point where the sensory element in the mental fact reaches such abnormal strength as to suggest the real presence of the object. Griesinger's statement (*Ment. Path. and Ther.*, p. 89) and Wundt's (*Phys. Psych.*, vol. ii., p. 353) seem too unguarded in the same respect. As long ago as 1832, the late Dr. Symonds, of Bristol, drew exactly the right distinction between images and hallucinations (Lecture reprinted in *Miscellanies*, p. 241).

less familiar to readers of this Journal—it will be convenient briefly to set forth, for the sake of subsequent reference.

Two small slits are made in a shutter, and one of them is filled with a piece of red glass. The opposite wall is therefore lit by a mixture of white and red light. A stick is now placed across the red slit; its shadow is of course cast on the wall; the part of the wall occupied by the shadow, though illuminated only by *white* rays from the other slit, appears—owing to the optical law of contrast—a bright green.¹ Let this shadow now be looked at through a narrow tube, which prevents any part of the wall external to the shadow from being seen. Nothing red is now in the spectator's view, so that there can be no effect of contrast: the red glass may even be removed; none but white rays are passing to his eye from the shadow; yet its colour remains green. And in this case the chances are that, unless previously warned, he will tell the exact truth; he will admit, and even persist, that what he sees is green. He will scout the idea that the green is a mere memory of what he saw before he applied the tube; he will assert that it is presented to him as an immediate fact. And such is assuredly the state of the case; but it is a state which, from the moment that he has put the tube to his eye, is kept up purely as a hallucination, and without regard to the facts of the external world. The delusion is of course instantly dispelled by the removal of the tube—when he perceives that the only light in the room is white, and that the shadow is

¹ Wundt (*Phys. Psych.*, vol. i., p. 463) has described some experiments, on the analogy of which it seems to me that this first result should be explained. I at any rate cannot concur with Delbœuf's explanation of it, which M. Binet adopts. According to them, it is due to two things: to the fact that the rays which pass from the shadow to the spectator's eye are really grey; and to the spectator's knowledge of the further fact that the only colour which, seen through red light, looks grey, is green. They hold then that the sensation, though of grey, excites through association an image of green. To this there seem to be three objections. (1) Not one person in twenty possesses the supposed piece of knowledge. (2) Even for one who does possess it, the moments in his life during which he has had experience of the fact that green seen through red light looks grey, are surely not sufficiently striking or numerous to have established an instinctive and inseparable association between the sensation of grey, occurring in a place where red light prevails, and the idea of green. (3) Even if this inseparable association could be conceived possible, one fails to see why the result should be the transformation, in the spectator's consciousness, of the *idea* green into (what at any rate seems to him to be) the *sensation* green; that being the very sensation which, in the supposed moments of experience, has been conspicuous by its absence. On Delbœuf's theory, the lawn seen through red glass ought not only to excite the idea of green (which it perhaps may do), but to *look* green.

grey ; but for all that he will probably never doubt again that a genuine hallucination of the senses is something more than "mere fancy".

It is impossible to be too particular on this point : for high authorities, even in the present day, are found to contest it. When a person who habitually speaks the truth, and who is not colour-blind, looks at an object and says "My sensation is green," they contradict him, and tell him that however much he *sees* green, his sensation is *grey*. Whether this be a mere misuse of language, or (as it seems to me) a misconception of facts, it at any rate renders impossible any agreement as to the theory of hallucinations. For it ignores the very point of Baillarger's contention—that images sufficiently vivid to be confounded with sensory percepts *have become* sensory percepts.

When once the truth of this contention is perceived, it is also perceived that the previous speculations had been largely directed to a wrong issue ; and that the *dual* character of a false perception is after all no other than that of a true perception. A hallucination, like an ordinary percept, is composed of present sensations, and of images which are the relics of past sensations. If I see the figure of a man, then—alike if there be a man there and if there be no man there—my experience consists of certain visual sensations, compounded with a variety of muscular and tactile images, which represent to me properties of resistance, weight, and distance ; and also with more remote and complex images, which enable me to refer the object to the class *man*, and to compare this specimen of the class with others whose appearance I can recall. If Baillarger did not carry out his view of hallucinations to this length, the whole development exists by implication in the term by which he described them—*psycho-sensorial*. The particular word was perhaps an unfortunate one ; since it suggests (as M. Binet has pointed out) that the psychical element is related to the sensorial somewhat as the soul to the body ; and so, either that psychical events are independent of physical conditions, or that sensations are not psychical events. *Ideo-sensorial* would avoid this difficulty ; but the obverse term which M. Binet proposes—*cerebro-sensorial*—is on the whole to be preferred. For this brings us at once to the *physical* ground where alone the next part of the inquiry can be profitably pursued—the inquiry into *origin*. From the standpoint of to-day, one readily perceives how much more definite and tangible the problems were certain to become, as soon as they were translated into physiological terms. So far as the

controversy had been conducted on a purely psychological basis, it had been singularly barren. In the vague unlocalised use, "the senses" and other ever recurring terms become sources of dread to the reader. But as soon as it is asked, where is the local seat of the abnormal occurrence? and on what particular physical conditions does it depend? lines of experiment and observation at once suggest themselves, and the phenomena fall into distinct groups.

3. *The question of Central or Peripheral Origin: difference between Creation and Excitation.*

In its first form, the question is one between *central* and *peripheral* origin. Do hallucinations originate in the brain—in the central mechanism of perception? or in some immediate condition of the eye, or of the ear, or of other parts? or is there possibly some joint mode of origin?

For a long time the hypothesis of an exclusively central origin was much in the ascendant. But this was greatly because—as already noted—Esquirol and the older writers did not recognise the sensory element as truly and literally sensation, but regarded the whole experience as simply a very vivid idea or memory. If the central origin is to be established it must be by something better than arbitrary psychological distinctions. Hibbert and Ferriar, going to the other extreme, contended that the memory was a *retinal* one; if a man *sees* what is not there, they held, it can only be by a direct recrudescence of past feeling in his retina. "But," urged Esquirol, "the *blind* can have hallucinations of vision; the *deaf* can have hallucinations of hearing; how can these originate in the peripheral organs?" The obvious answer, that this did not necessarily thrust the point of origin back as far as the cerebrum, does not seem to have been forthcoming; and the opposite party preferred to fall back on definite experiment. They pointed out, for instance, that visual hallucinations often vanish when the eyes are closed; or (as Brewster first observed) that they may be doubled by pressing one eyeball. But though there was enough here to suggest that the external organs *participated* in the process, there was no proof that they *originated* it, even in these particular cases; while for other cases the observations did not hold. An immense advance was made by Baillarger, who maintained the central origin by really scientific arguments. He pointed out (1) that the external organ may often be affected by local irritants—inflammation, blows, pressure, galvanism—without the production of any more pronounced

form of hallucination than flashes, or hummings; that is to say, the peripheral stimulation fails to develop hallucination, even under the most favourable conditions: (2) that there is a frequent correspondence of hallucinations of different senses—a man who sees the devil also hears his voice, and smells sulphur—and that it is impossible to refer this correspondence to abnormalities of the eye, ear and nose, occurring by accident at the same moment: (3) that hallucinations often refer to dominant ideas—a religious monomaniac will see imaginary saints and angels, not imaginary trees and houses. Hence, argued Baillarger, “the point of departure of hallucinations” is always “the intelligence”—the imagination and memory—which sets the sensory machinery in motion. He naïvely admitted that how this action of an immaterial principle on the physical apparatus takes place passes all conception; but it might be forgiven to a medical man, writing forty years ago, if he had not fully realised “brain as an organ of mind,” and so did not see that what he took for a special puzzle in the theory of hallucinations, is simply the fundamental puzzle involved in every mental act. Passing him this, we may say that his treatment of the question entitles him to the credit of the *second* great discovery about hallucinations. He had already made clear their genuinely sensory quality; he now made equally clear the fact that the mind (or its physical correlate) is their creator—that they are brain-products projected from within outwards.

This is a most important truth; but it is very far from being the whole truth. Baillarger saw no *via media* between the theory which he rejected—that the nerves of sense convey to the brain impressions which are there perceived as the phantasmal object—and the theory which he propounded, that “the intelligence” (*i.e.*, for us, the brain, as the seat of memories and images) of its own accord, and without any impulse from the periphery, excites the sensory apparatus. It seems never to have struck him that there may be cases where the sense-organ supplies the *excitant*, though the brain is the *creator*—that irritation passing from without inwards may be a means of setting in motion the creative activity. He took into account certain states of the organ—*e.g.*, fatigue produced by previous exercise—as increasing the susceptibility to excitation from “the intelligence,” and so as conditions favourable to hallucination; but he got no further.

The facts of hallucination absolutely refuse to lend themselves to this indiscriminate treatment. Following the path

of experiment, we are almost immediately confronted with *two* classes of phenomena, and *two* modes of excitation. We need not go, indeed, beyond the elementary instances already mentioned. Delbœuf's experiment, where green was seen by an eye on which only white rays were falling, fairly illustrates Baillarger's doctrine—the green being produced not by an outer affection of the eye, but by an inner affection of the brain. But in the case of a person who has been staring at the sun, the “after-image” or hallucination can be clearly traced to a continuing local effect in that small area of the retina which has just been abnormally excited; and it will continue to present itself wherever the eye may turn, until rest has restored this area to its normal condition. A still simpler form of change in the external organ is a blow on the eye; and the resulting “sparks” are genuine though embryonic hallucinations.

Such cases as these last are, however, hardly typical; for in them the brain is not truly creative; it merely gives the inevitable response to the stimuli that reach it from below. They are moreover *normal* experiences, in the sense that they would occur similarly to all persons with normal eyes. Let us then take another instance, where the mind's creative rôle is fully apparent, while at the same time the primary excitation is clearly not central. Certain hallucinations—as is well known—are *uni-lateral*, *i.e.*, are perceived when (say) the right eye or ear is acting, but cease when that action is obstructed, though the left eye or ear is still free. Now this in itself could not be taken, as some take it,¹ for a proof that the exciting cause was not central; it might be a lesion affecting one side of the brain. But very commonly, in these cases, a distinct lesion is found in the particular eye or ear on whose activity the hallucination depends;² and it is then natural to conclude that the hallucination was the result of the lesion, and that the one-sidedness of the one depended on the one-sidedness of the other. The justice of the conclusion has been proved in many cases by the fact that the hallucination has ceased when the local lesion has been cured. Other cases which strongly suggest a morbid condition of the external organ are those where the imaginary figure moves in accordance with the movements of the eye.

¹ Dr. Régis in *L'Encéphale*, 1881, p. 51; Prof. Ball in *L'Encéphale*, 1882, p. 5.

² Dr. Régis in *L'Encéphale*, 1881, p. 46; M. Voisin in the *Bulletin de Thérapeutique*, vol. xxxix.; Dr. Despine, *Psychologie Naturelle*, vol. ii., p. 29; Krafft-Ebing, *Die Sinnesdelirien*, p. 25.

The visual hallucinations of the blind, and the auditory hallucinations of the deaf, would also naturally be referred to the same class—the seat of excitation being then, not necessarily the external organ itself, but some point on the nervous path from the organ to the brain. In the case, for instance, of a partly-atrophied nerve, the morbid excitation would be at the most external point where vital function continued.¹ It should be noted, in passing, that a distinct lesion, *e.g.*, atrophy of the globe, of *one* eye may give rise to *bilateral* hallucinations (*Vienna Asylum Report*, 1858), or to *unilateral* hallucinations of the *sound* eye—the latter being no doubt affected directly by the brain.

4. *External Excitation of Hallucinations.*

But we may now proceed a step further. The excitation may be external not only in the sense of coming from the external organ, but in the sense of coming from the external world. It may be due not to any abnormality of the eye or the nerve, but to the ordinary stimulus of light-rays from real objects. M. Binet is the first who has given the complete evidence for this fact, accompanied by a scientific explanation of it;² and in so doing, he has made a contribution to the learning of the subject second in importance only to that of Baillarger.

M. Binet's experiments were conducted on five hypnotised girls at the Salpêtrière, who could be made to see anything that was suggested to them; and also on an insane woman at St. Anne, who had a standing visual hallucination of her own. The experiments may be divided into two sets—those conducted with, and those conducted without, special optical apparatus. The results of both sets confirmed the rule first enunciated by M. Féré—that “the imaginary object is perceived under the same conditions as a real one”; but to this M. Binet adds the further conclusion, that a sensation de-

¹ Delusions due to visceral disturbances are often quoted as cases of hallucination excited from parts below the brain. Thus a woman dying of peritonitis declares that an ecclesiastical conclave is being held inside her (*Esquirol, Maladies Mentales*, vol. i., p. 211). But here there is a prior and independent basis of distinct sensation; so that the experience would at most be an illusion. And it is hardly even that; for one cannot say that the false object is sensorially presented at all; no one knows what a conclave in such a locality would actually feel like; the conclave is merely a *delire*—an imagination suggested by sensation, but which does not itself take a sensory form.

² In the *Revue Philosophique*, April and May, 1884.

rived from a *real* external source, occupying the same position in space as the imaginary object seemed to occupy, was an indispensable factor of the hallucination. The results obtained without special apparatus do not appear to me at all to justify this conclusion. They were (1) suppression of the imaginary object by closure of the eyes; (2) suppression of the imaginary object by the interposition of an opaque screen between the eye and the place where the object seemed to be; (3) doubling of the imaginary object by lateral pressure of one eyeball. M. Binet argues that the suppression in the first two cases, and the doubling in the third, depended on the suppression and the doubling of a real sensation, physically induced by rays from the direction in which the object was seen. But the fact that external objects are hidden from view by the interposition of our own eyelids or any other opaque obstacle, has become to us a piece of absolutely instinctive knowledge; and we should surely expect that an object which was but the spontaneous projection of a morbid brain, might still be suppressed by movements and sensations which had for a lifetime been intimately associated with the suppression of objects. And as regards the doubling by pressure of the eyeball, it can be perfectly explained on Baillarger's principles—by supposing that an excitation which has been centrally initiated spreads outwards to the peripheral expansion of the optic nerve.

When, however, we turn to the other group of experiments, the case is very different. The instruments used were a prism, a spy-glass and a mirror. The results were epitomised by M. Binet himself in MIND XXXV., and I need not describe them in detail. It is enough to say that the prism applied to one eye doubled the imaginary object¹; that the spy-glass removed or approximated it according as the object-glass or eye-piece was applied to the patient's eye; that the mirror reflected the object and gave a symmetrical image of it; and that the optical effect, as regards angles of deviation and reflexion and all the details of the illusion, was in every case precisely what it would have been had the object been real instead of imaginary. Here then we are fairly driven outside the patient's own organism; it is impossible to deny that some point of external space at or near the seat of the imagined object plays a real part in the phenomenon. To this point M. Binet gives the name of *point de repère*; and he regards it as pro-

¹ The observation was first made by M. Féré; see *Le Progrès Médical*, 1881.

ducing a nucleus of sensation to which the hallucination accretes itself. When the *point de repère* is in such a position as to be reflected by the mirror, then the imaginary object is reflected, and not otherwise; the object is, so to speak, attached to its *point de repère*, and will follow the course of any optical illusions to which its sensory nucleus is subjected. According to this view, the only truly sensory part of the phenomenon is supplied by the *point de repère*; all the rest is a "hypertrophied image" imposed on it by the mind.

These conclusions are entirely foreign to any former theory of hallucination. None of the contending parties, not even the early champions of a purely peripheral origin, had ever dreamt of excitants outside the eye itself. Oddly enough, M. Binet seems hardly aware of his own originality. He remarks that the general view now is that hallucinations are always the product of real sensation; and he divides them into two classes,—those where the sensation is initiated in the sensory organ by an external object ("*hallucinations à cause objective*"); and those where it is initiated by a morbid local irritation of the sensory organ itself ("*hallucinations à cause subjective*"). As practically the inventor of the former class, M. Binet is really the first person who has had a right to this "general view". But his modesty connects itself with a serious historical error. For he still retains Baillarger's term—*psycho-sensorial*—and actually refers to Baillarger as having meant the same by that term as he himself does. With Baillarger—as we have seen—the "sensorial" element was imposed or evoked by "the intelligence," not supplied to it; and was not an unnoticed peg for the hallucination, but its very fulness and substance. Baillarger explicitly lays down, as one of the prime conditions for hallucination, a "suspension of external impressions"; and gives as the definition of a psycho-sensorial hallucination "a sensory perception independent of all external excitation of the sense-organs," including excitation morbidly initiated in the organs themselves.¹ The opposition is really complete. Of all the optical illusions described by M. Binet, the only one which Baillarger's doctrine would explain is the doubling of the object by pressure on the side of the eyeball; for this alone could be accounted for by supposing the retina to be excited from the brain. The novelty of M.

¹ Baillarger, *Des Hallucinations*, pp. 426, 469, and 470. A similar misreading of Baillarger, contained in a single sentence, is the one point from which I dissent in the extremely clear and concise chapter on the subject in Mr. Sully's *Illusions*.

Binet's own results is that they force us to regard the external impression as not only present but indispensable, at any rate at the moment when the optical instruments produce their characteristic effects.

But while admiring the manner in which M. Binet has marshalled his facts, and recognising that they have led him to a most interesting discovery, I cannot accept his conclusions beyond a certain point. He applies conceptions drawn from his special department of observation to the whole field, and considers that hallucinations are exhausted by the two classes just defined—i.e., that there is no such thing as central initiation. Now even for the cases "*à cause objective*," to which the novel experimental results belong, it is important to observe that though the excitation comes from outside, the *hallucination*—the object as actually perceived—is still (as Baillarger taught) a pure product of the mind. Everything about it, including its false air of reality, is brain-created; and the occasioning or evoking cause has no place in it. But if this be so—and M. Binet himself has practically admitted it—we cannot consent to call the external excitation of the organ *sensation*. M. Binet so treats it throughout—as a sensation atrophied, indeed, and clothed upon with hypertrophical and delusive images; but still as sensation—as a psychical element in the result. Now in considering Delbœuf's experiment above, we objected to the notion that the spectator had a *sensation* of grey which he clothed with an *image* of green. The physical rays that met his eye were such as normally produce the sensation of grey; that is the only way in which the word *grey* can be brought into the account; psychically, no colour but green was present. Just the same objection applies to saying of the hypnotic "subject" that he is receiving from part of the table-cloth a "sensation" of white, which he clothes with an image of a brown butterfly; or of the patient in *delirium tremens*, that he is receiving from the wall-paper "sensations" of drab which he clothes with images of black mice. In neither case is there a "perturbation of sensorial functions" in M. Binet's sense. The sensorial elements, the brown and the black, spring from a new activity within; they are not the outcome of functions exercised on the table-cloth or the wall-paper—not a perverted transcript of white and drab.

Holding fast to this view, we can still perfectly well explain M. Binet's results, even in the hypnotic cases on which he chiefly relies. If the *point de repère* is not at, but close to, the spot where the imaginary object appears (as seems to

have been the case in some of the experiments), there is no difficulty. The *point de repère* is then itself part of what is all along perceived; and in any effects produced on it by optical apparatus, it will carry the neighbouring object with it by *association*. If, however, the actual area covered by the object is sufficiently distinguished from its surroundings to act itself as *point de repère*, and no other possible *points de repère* exist in the field of vision,¹ the case is different, but can still be explained. It will not be disputed that a slightly longer time is necessary for the formation of the image of a suggested object and the conversion of this image into a percept, than for the experience of sensation from an object actually before the eyes. When therefore the operator points to a particular place on the white table-cloth, and says "There is a brown butterfly," we may suppose that in the patient's consciousness a real sensation of white precedes by an instant the imposed sensation of brown. So when the card-board on which a non-existent portrait has just been seen is again brought before the patient's eyes, it is almost certain that the recognition of it as the same piece of white card-board (known by its *points de repère*) precedes by an instant the hallucinatory process and the re-imposition of the portrait. That there is this instant of true sensation seems to be shown, indeed, by one of M. Binet's own experiments. The patient having been made to see an imaginary portrait on a blank piece of card-board, this was suddenly covered by a sheet of paper. The patient said that the portrait *disappeared for a moment*, but then reappeared on the paper with complete distinctness. We may thus fairly conclude that an area which was actually seen before the hallucination was induced in the first instance, will also be actually seen for a moment when vision is redirected to it (or its reflexion), after the optical apparatus has been brought into play. During that moment, it will of course be seen under the new illusive optical conditions; and *association* may again cause the object which supplants it to follow suit. There can be no objection, however, to supposing that the supplanted area continues further to *provoke* the hallucination, in the same

¹ I cannot quite make out whether these conditions were ever exactly realised. In the case where an imaginary portrait had been evoked on a piece of card-board, and this piece was subsequently picked out by the patient from among a number of similar ones, I gather that there was some recognisable mark external to the area of the portrait. It is said that lateral pressure doubled the image, even when the eyes were "fixed on the uniform surface of the wall". But this particular optical effect, as we have already noticed, does not imply the presence of *points de repère* at all.

sense that the white rays provoked the green percept in Delbœuf's experiment. The rays which are lost to sensation continue to excite the sensorium physically; and what M. Binet says of the sensation only needs to be transferred to the *physical excitation*—which will have definite peculiarities, corresponding to the distinguishing marks of the area whence it comes. Double this excitation by a prism, or reflect it from another quarter, and the percept which it provokes may naturally be doubled or seen in the new direction. So, if both eyes were employed in Delbœuf's experiment, might the green percept be artificially doubled.

I am aware that this substitution of the physical for the psychical term may appear very unimportant and even pedantic; but in truth it is not so. For it is really his psychical expression of the external stimulus in these cases that has led M. Binet to regard hallucinations as simply a monstrous form of *illusion*, and to enunciate a general formula for them which—for all its attractive and original air—seems radically unsound. He considers them the *pathological—as opposed to the normal—form of external perception*. As in normal perception, we have a visual sensation which we associate with *true* images, so, he holds, in hallucinations we have a visual sensation which we associate with *false* images. The looseness of this analogy is surely obvious, and the apparent symmetry of the two cases quite unreal. In normal vision, the true images which (according to M. Binet's own account) we primarily associate with the visual sensation, are not *visual*, but *muscular* and *tactile* images, whereby we attach the ideas of weight, solidity and distance to what we see. The process through which we get the perception of a real external object is thus primarily an association between psychical elements belonging to different senses—a visual sensation, which the brain receives, and non-visual images, which the brain supplies; and if we convert the non-visual images into sensations by touching or pressing the object, we get a verification of its external reality. Now, if M. Binet's formula is to hold, and hallucinations are the pathological form of external perception, we ought to find that they are produced when for the *true* images of normal perception we substitute *false* images. Is this the case? Suppose a hypnotic patient to be impressed with the idea that a piece of white paper is a red rose: would it be a right account of his hallucination to say that he receives a visual sensation, and then associates with it false muscular and tactile images? Certainly not: what he does is to *see wrong* to begin with, to see false *form* and false *colour*—things

quite distinct in character from ideas of weight, solidity and distance, and which might exist in the absence of any such ideas. It is true that when he has this visual experience, habit leads him to go and connect it with false images of weight, solidity and distance; but that is a secondary result. Hallucination does not depend on the falsity of those images; and, indeed, the test of touching and pressing would often fail to demonstrate their falsity, owing to the frequent sympathy of several senses in hallucination. The essential fact is immediate, and consists simply in having *a visual experience which others cannot share*—in seeing what is invisible to a normal eye. This becomes clearer still, if we make the imaginary object correspond to a real object in everything except colour. Let the patient be led to believe that a green stick of sealing-wax is a red stick, then, whatever tests be adopted, he will share with normal persons every sensation except the visual; but none the less will the process of hallucination be complete. This process, then, is no way parallel to that of normal perception. It is not, as that was, an association between psychical elements belonging to different senses; and its sensory part, the essence of which is *redness*, is not—as in the normal perception of a red object—*received* by the brain, but is *imposed* by it. By what right can processes so different be represented as co-ordinate—as the healthy and the morbid exercise of the same function?

5. *Cases where External Excitation is doubtful.*

So far I have considered M. Binet's theory only in relation to his own cases—where it was easy to concede the *fact* of excitation from without, whatever be our view of its share in the phenomena. It remains to consider the numerous cases—the large majority of the whole body of hallucinations—where this excitation is itself doubtful, or more than doubtful. Let us take the doubtful cases first.

In the optical experiments it was, of course, convenient that the hallucination should be projected on a flat opaque surface; and on such a surface the objective *points de repère* may be easily found. But it is quite as easy to make the patient see objects in free space—say, out in the middle of the room; and such is the common form of spontaneous hallucinations, both of sane and insane persons, where human figures are seen. The eyes are then focussed, not on the real objects from which *points de repère* would have to be supplied, but on the figure itself; which may be

much nearer than the wall behind it, and may thus require a very different adjustment of the eyes. And here lies a difficulty for the hypothesis that the hallucination depends on some definite external excitation of the retina. For the real objects which are the supposed excitants, though in the line of sight, are not within the range of clear vision for eyes adjusted to the imaginary object. Can the *points de repère* be supposed to excite a percept whose position is such that, for it to be clearly visible, they themselves must cease to be so? It is a good deal to require of them. Still, M. Binet's experiment with the insane patient is a very striking one. This woman, Celestine by name, had an imaginary attendant called Guiteau. Guiteau lent himself to scientific tests, and was doubled by a prism and reflected by a mirror in the most orthodox fashion. This undoubtedly implied *points de repère*—probably situated near, and not on, the area which Guiteau concealed. One would like, however, to know exactly how his figure was situated in relation to its background. The distance between the two may have been inconsiderable; and in that case the fact of the doubling and the reflection would not prove the *points de repère* to have been an essential condition of the hallucination. For, when the patient is made to look attentively at the figure, as a preliminary to the optical tests, the very fixity of the gaze may then and there establish the *points de repère* which will enable those tests to succeed. It would be interesting to know whether Guiteau would be reflected when he was not being specially stared at, supposing that there was a mirror in an appropriate position.¹

¹ In the case of the hypnotic "subjects," a certain peculiarity in the fixed regard, such as might establish *points de repère*, is strongly suggested by the following fact. In some cases, after a screen had been interposed between the patient's eyes and the imaginary object, she continued to see not only that object (say, a mouse), but a *real object* (say, a hat) on which it had been placed. Thus the hat assumed the property—shared by the imaginary mouse, but unshared by any other real objects—of remaining as a percept in spite of an opaque barrier.

As regards reflexion, the following case is of interest; it is from Mr. Adrian Stokes, M.R.C.S., of Sidmouth:—

"When I was living in Bedford Street North, Liverpool, in the year 1857 (I think), my wife roused me from sleep suddenly and said, 'Oh! Adrian, there's Agnes!' I started up, crying, 'Where? Where?' but, of course, there was no Agnes. My wife then told me that she had awoken, and had seen the form of her only sister, Agnes, sitting on the ottoman at the foot of the bed. On seeing this form she felt frightened; but then, recalling her courage, she thought if the figure were real she would be able to see it reflected in the mirror of the wardrobe, which she had in full view as she lay in bed. Directing her eyes, therefore, to the mirror, there she saw, by the light of the fire that was burning brightly in the grate, the full

The supposed necessity of the external excitation might be otherwise tested thus. Suppose Celestine to be placed in a white spherical chamber, lit from a point directly above her head. Here there would be no *points de repère*—no special points of external excitation with which an imaginary object could be connected. The only excitant to the eye would be perfectly uniform white light; and this excitant would remain identical, in whatever direction the eye turned. Consequently, if the external excitation be a necessary factor in the production of Guiteau, he ought, if seen at all, to be seen wherever Celestine looked; there would be nothing to attach him to any particular spot. It is rash to prophesy; but I strongly suspect that he would prove more amenable, and that Celestine would retain her power of turning her back on him. Such, in my view, would be the natural result: a figure spontaneously projected by the brain would be located as an independent object, and looked at or not at pleasure. It would be interesting to know, further, if Guiteau is ever seen in the dark. But it should be observed that light may favour and darkness hinder the projection of a phantasm, owing to the different effect of the one and the other on the *general* physiological state. The presence of light might thus be a necessity, quite apart from any distinguishable *points de repère*. In the same way the presence of light is occasionally found to be a condition of *auditory* hallucinations¹; which even M. Binet would find it hard to

reflexion of the form seated on the ottoman, looking at a bunch of keys which she appeared to hold in her hand. Under the startling effect caused by this sight, she called me to look at it, but, before I was awake, the form and its reflexion had vanished. It was not a dream, my wife is certain.

"P.S.—When my wife saw her sister sitting at the foot of our bed looking at the bunch of keys, she (the sister) was clad in the ordinary indoor dress of the time. I remember the start of surprise with which I awoke and exclaimed. My wife has never, that I know of, experienced any hallucination or delirium; and is a woman of excellent sense and judgment. She never saw any other vision but that one."

Here, however, the expectant imagination of the percipient may have been adequate to conjure up the reflected figure, and the case does not therefore support M. Binet's theory.

¹ Ball, *Leçons sur les Maladies Mentales*, p. 116. See also the very interesting case given by Professor F. Jolly in the *Archiv für Psychiatrie*, vol. iv., p. 495. His paper is on the production of auditory hallucinations by the application of an electric current in the neighbourhood of the ear. In one case, he shows good reason for attributing the hallucination, not to a stimulation of the *auditory* nerve, but to a transference to the auditory centre of the stimulus given to fibres of the *fifth* nerve. For the subjective sounds did not, as in all the other cases, correspond in a regular way to the opening and closing of the current, but appeared under all conditions in which *pain* was produced.

compound out of a "sensation" of light and an "image" of sound.

But the difficulty of regarding external points of excitation as a necessary condition becomes even greater when the hallucination is a *moving* one. As to these cases, M. Binet can only say that the *point de repère* keeps changing; that is, as the imaginary figure passes along the side of the room, in front of a multitude of different objects—pictures, paper, furniture, &c.—the very various excitations from these several objects act in turn as the basis of the same delusive image. We may surely hesitate to accept such an assertion, till some sort of proof of it is offered; and it is hard to conceive of what nature the proof could be. The case of course differs altogether from that where the imaginary figure follows the movements of the eye, owing to some morbid affection of that organ which acts as a real moving substratum for it. Instead of the figure's following the eye, the eye is now following the figure in its seemingly independent course. What is there to produce or to guide the selection of ever-new *points de repère*? To what external cause can M. Binet ascribe the perpetual substitution of one of them for another? On my view—that the figure may be centrally initiated, no less than centrally created—none of these difficulties occur. Such a figure may just as well appear in the empty centre of the room as on a piece of cardboard, and may just as well move as stand still. The same sort of argument applies to the case where the percipient is haunted by a figure which, however, can be seen only in one direction.¹ Thus Baillarger describes a doctor who could not turn without finding a little black cow at his side. The mind may locate its puppet according to its own vagaries; and this experience is very like a sensory embodiment of the well-known delusion that somebody is always behind one.

6. Cases where *External Excitation is absent*.

So much, then, for M. Binet's hallucinations "*à cause objective*". We turn now to the vast body of cases where excitation from the outer world is plainly absent. This class includes phantasms seen in the dark, and probably the

¹ Ball, *Leçons sur les Maladies Mentales*, p. 73; Baillarger, *Des Hallucinations*, p. 312. Another type of the *moving* hallucination is presented by Bayle's case (*Revue Médicale*, 1825, vol. i., p. 34), where a spider used first to appear life-size, and then gradually to expand till it filled the whole room.

large majority of auditory hallucinations, which have so far been disregarded. To bring these under M. Binet's theory, it has to be assumed that in every case they are initiated by some morbid or abnormal condition of the eye or the ear. The assumption is, to say the least, a very violent one. We have duly noted the cases where hallucinations have been undoubtedly due to injury of the external organ; but this does not establish, or even strongly suggest, the existence of a similar condition in cases where it defies detection.¹ As a rule, where the abnormal condition has been made out, hallucinations have not been its only result. The ulceration of the cornea which initiates visual hallucinations has begun by affecting the vision of real objects. Illusions, or false perceptions of colour, often precede the appearance

¹ The sweeping method seems as much in favour now as at the earlier stages of the controversy. As M. Binet has stated his case in a masterly way, I need not encumber the course of the argument by perpetual references to cognate statements. But there is one mode of presenting the rival views which seems so established in the recent French literature that it will be well to reproduce it here in a succinct form. Writers of authority (Prof. Ball in *L'Encéphale*, 1882, p. 6, and in *Maladies Mentales*, p. 111, &c., and Dr. Régis in his classical paper on unilateral hallucinations in *L'Encéphale*, 1881, p. 44), seem never to have conceived the theory of a purely central origin in any other light than as the "projection of an idea outwards"—a doctrine which they regard as now abandoned, and which they refer to only in its most antiquated shape. They start by treating the "mixed" or "psycho-sensorial" theory as if its point and purpose had been to assert that the *body* counts for something in hallucinations—in opposition to the former crudely "psychical" theory, which made "the imagination" act independently of any bodily affection. They then point to cases where hallucinations have plainly been due to a lesion or morbid irritation of the sensory apparatus; and they adopt this morbid condition as the bodily element or physical basis of the phenomenon—that which gives it its *mixed* character and makes it *psycho-sensorial* instead of *psychical*. Thence they assert, as an indispensable condition of every hallucination, that the imagination must be set to work by some "abnormal sensation" derived from some point of actual lesion. This is both confused and confusing. Hallucinations, as we have seen, are *psycho-sensorial* in virtue of their *nature*, not of their *origin*—because they present distinct sensory qualities—are things actually *seen* and actually *heard*—not because this or that starting-point can be assigned them. As for their physical basis, that can be nothing else than a concurrent state of morbid activity at certain cerebral centres. In some cases this activity is no doubt due to lesion at some point along the sensory track; in others, as I here contend, it may originate at the centres themselves and may be independent of any excitation previous to or other than itself. Whether right or wrong, this contention will certainly not be refuted by confounding it with the antiquated "psychical" view, which took no count either of a physical basis or of sensory qualities. As for the "projection of an idea outwards," that of course is an expression of the immediate *fact* of hallucination, apart from the question of the *excitant*. Why should it be abandoned? Is it not at

of more distinct phantasms.¹ So, in cases of more transient abnormality—such as the well-known *illusions hypnagogiques*—other signs precede the hallucination. The observer, whose eyes are heavy with sleep, begins by seeing luminous points and streaks, which shift and change in remarkable ways; and it is from these as nuclei that the subsequent pictures develop. Similarly one of the seers of “Faces in the Dark” (*St. James’s Gazette*, Feb. 10, 15 and 20, 1882) described the frequent vision of a shower of golden spangles, which changed into a flock of sheep. Now, since our physiological knowledge leaves no doubt that the points, streaks and spangles are due to the condition of the retina, it is reasonable in such cases to regard this condition as initiating the hallucination. But it is not equally reasonable to conclude that the process must be the same for cases where the points, streaks and spangles are absent. I do not forget that even a normal eye is subject to affections which escape attention, until a special effort is made to realise them. But wherever the hallucination can be gradually traced in its development from more rudimentary sensations, these last are very distinct and exceptional things, unknown in the experience of most of us, and the vision itself is commonly of a changing kind—the features developing rapidly out of one another; often also of a swarming kind—detailed landscapes, elaborate kaleidoscopic patterns, showers of flowers, lines of writing on a luminous ground, and so on.² Now, compare such experiences with ordinary cases of “ghost-seeing” in the dark. A man wakes in the night, and sees a luminous figure at the foot of his bed. Here the hallucination comes suddenly, single and complete, to a person whose eyes are open and unfatigued; it is not preceded by any peculiar affection of vision, is not developed out of anything, and does not move, or swarm, or develop fresh features; nor does it fulfil M. Binet’s test of

any rate as well suited to its purpose as the only piece of information that Prof. Ball offers us in its stead—namely, that hallucinations are the creation of a brain predisposed to create them?

The advocacy of the “cerebral origin” must, of course, not be taken to imply that the condition of the brain is isolated from that of the rest of the body. The abnormal excitability of the brain may be intimately connected with morbid conditions elsewhere: all that is contended is that no immediate sensory stimulant is needed as a definite basis or peg for hallucinations.

¹ Dr. Max Simon in the *Lyon Médical*, vol. xxxv., p. 439.

² Galton, *Inquiries into Human Faculty*, pp. 159-163; Maury, *Le Sommeil et les Rêves*, p. 331.

hallucinations due to the state of the external organ, by moving as the eye moves.¹ Such visions are commonly explained—and often no doubt with justice—as due to nervousness or expectancy. But nervousness and expectancy surely act by exciting the mind, not by congesting the retina; they work on the imagination, and their physical seat is not in the eye, but in the brain. Why then should not the brain initiate the hallucination? Why may not “visions of the dark,” which vary so greatly both in themselves and in the general conditions of their appearance, vary also in their seat of origin?

The auditory cases are even plainer. For it is only exceptionally that the waking ear, like the waking eye, is subjected to marked and continuous stimulation from without, such as might serve, on M. Binet's view, as a basis for a prolonged hallucination. It is not even subject to border-land experiences analogous to the *illusions hypnagogiques*. The only alternative, therefore, to supposing the phenomena to be centrally initiated, is to suppose some abnormality in the external organ itself. Such an abnormality has often been detected; and even where not absolutely detected, it may sometimes be inferred from other symptoms. Thus, an enlarged carotid canal, or a stoppage which produces an unwonted pressure on the vessels, will first make itself felt by hummings and buzzings; hallucination then sets in, and imaginary voices are heard, and these then we should naturally trace to the local irritation that produced the former sounds. But why are we to treat in the same way cases where there are no hummings and buzzings and no grounds for supposing that there is stoppage or lesion of any sort? Among a numerous, though much neglected, class of phenomena—the casual hallucinations of the sane—the commonest form by very far is for persons to hear their name called when no one is by. The experience is often remarkably distinct, causing the hearer to start and turn

¹ M. Binet treats all “ghost-seers” as so paralysed with terror that they do not move their eyes from the figure—which leaves it open to him to guess that the figure would move if their eyes moved. Having made a large collection of cases of hallucinations of the sane, I am in a position to deny this. To Wundt, also, stationary hallucinations that can be looked away from seem unknown as a distinct and fairly common type, and he inclines to regard them as mere illusions. Brewster's case of Mrs. A., and the well-known cases given by Paterson (*Edinburgh Medical and Surgical Journal*, Jan. 1843) would alone suffice, I think, to refute this view. See also Kandinsky's and Schröder van der Kolk's own experiences (*Archiv für Psychiatrie*, 1881, p. 461, and *Pathology and Therapeut. of Mental Diseases*, p. 14).

round. It is not at all connected with conditions that produce blood-pressure, such as lying with one ear closely pressed on the pillow: it comes in a sudden and detached way, and apparently at quite accidental moments. Again, among the insane a well-known form of hallucination occurs in the form of dialogue; the patient returns answers to the voices that haunt him, and is answered in turn. Are we to suppose here an *intermittent* abnormality of the ear, which always sets in by chance at the very moment when the imaginary speaker's replies fall due? It may be added that even where a distinct morbid cause can be traced, it is as often as not a *central* cause. After a long course of alcohol, a man begins to hear voices; but alcohol, while admittedly affecting brain-tissue, has no recognised tendency to affect the ear.

A further argument for the central initiation of many hallucinations of the more distinctly morbid sort may be drawn from the *course* which the morbid process takes. The first stage is often not a sensory hallucination at all; it is a mere delusion; the patient thinks that plots are being concocted against him. After a time his secret enemies begin to reveal themselves, and he hears their abusive and threatening language. We surely cannot ascribe the sensory experience here to a lesion of the ear which happens to occur independently, but regularly, at this particular stage; it follows, on the other hand, in the most natural way, if we regard it as imposed from within, as soon as the disease has gone far enough for the mind to clothe its imaginary fears in a more vivid form. Specially conclusive in this respect are the cases where voices begin to address the patient in the most internal way, without sound, and only after a time talk in a distinctly audible character.¹ But the most interesting of all the cases in point are those where one type of hallucination assails one side of the body and another the other.² They confirm what was said above—that the mere fact of a hallucination being *unilateral*, or peculiar to one side of the body, though suggesting a defect in the external organ, is by no means a proof of it.³ The double sensory experience follows with exactness the course of the delusions. The patient first suffers from melancholy

¹ Griesinger's *Ment. Path. and Ther.*, p. 89. The bearing of this fact on the theory of central origin has been noted by Mr. Sully, *Illusions*, p. 119.

² See Dr. Magnan's account in the *Archives de Neurologie*, vol. vi., p. 336.

³ Cf. Dr. A. Robertson in the *Report of the International Medical Congress*, 1881, vol. iii., pp. 632-3.

and discouragement ; this develops into a belief that he is surrounded by enemies ; and he then hears insulting voices on the right side. To this unhappy stage succeeds in due course one of exaltation and self-esteem ; the patient believes himself to be the son of God. And now encouraging and eulogistic voices present themselves on the left side. "The good and the evil genii form a sort of Manicheism which governs him." Here the imagination, as its operations became more complex, and established an opposition of character between its creatures, took advantage (so to speak) of the fact that the body has two opposite sides ; it located friends and foes just as they might be located in a picture or play which represented an impending contest. It cannot surely be maintained that by accident the right ear began to be locally affected, just at the time when the development of the plot necessitated the entrance of the friendly power upon the scene. Another case involves the sense of touch. A man, after praying for a year that his actions might be divinely guided, heard a voice say, "I will save thy soul" ; and from that time forward he felt his left or his right ear touched by an invisible attendant, according as he was doing right or wrong.¹ Did the auditory hallucination coincide by chance with the commencement of local irritation in the *pinna*. Dr. Magnan adds three examples of alcoholism, where abuse and threats were heard on one side, praise and consolation on the other. In these cases there were crises of fury, in which hallucinations of all the senses took place, involving both sides alike, and masking the more ordinary condition. On the decline of these crises, the opposed auditory hallucinations recommenced. It seems impossible to resist Dr. Magnan's view, that the poison, distributed through the whole brain, provokes at times a general crisis ; but that when this subsides, it localises its action at the weakest spot. Should this happen to be the auditory centre on one side, a single unilateral hallucination would be the result ; but if both centres remain affected, the projection may assume the complex two-sided form.

But the strongest cases of all in favour of a purely central initiation yet remain—the cases of hallucination *voluntarily originated*. Wigan's instance has often been quoted, of the painter who, after carefully studying a sitter's appearance, could project it visibly into space, and paint the portrait not from the original but from the phantasm. He ended by confounding the phantasmal figures with real ones, and be-

¹ Bodin, *Démonomanie des Sorciers* (Edition of 1850, Paris), p. 10.

came insane. Baillarger reports another painter, Martin, as having similarly projected pictures, which so interested him that he requested anyone who took up a position in front of them to move.¹ A still more interesting case, recently reported by Dr. V. Parant, is that of an asylum-patient who, when thwarted or annoyed, would go to special spots to consult imaginary advisers; the replies she received—it need hardly be said—always corresponded with her own desires and prejudices. Another insane woman used to play “odd and even” with an imaginary prefect of police, whose guesses were always wrong.² M. Binet will surely not maintain that in these cases the person first establishes, by an effort of will, some sort of peripheral excitation, and that this then reacts by evoking the hallucination. Such a circuitous route might with equal reason be imagined for any simple act of representation or memory.³

The only other group of phenomena that we need notice is one that all writers since Baillarger seem to have agreed to treat as a quite unique type. It is a class of which frequent examples have been observed among religious mystics

¹ One of the seers of “Faces in the Dark” reported that he could produce the vision of the spangles and sheep at will. His case differs, however, from those given in the text. For, in the first place, his vision was one of old standing; and, in the second place, his retina must have been pretty constantly in the abnormal state. I should thus ascribe the phenomenon to a concentration of attention on actual visual sensations, which fell by habit into the familiar lines. It would be interesting to know whether, after the spangles had appeared, it was possible to *check* their development into sheep.

² *Annales Médico-psych.*, 6th series, vol. vii., p. 379; Ball, *Maladies Mentales*, p. 98. See also the cases described by Michéa in the *Ann. Médico-psych.* for 1856, p. 389, and M. Sandras’ own experience in the same journal for 1855, p. 542. It is odd to find *involuntariness* not infrequently taken as the distinctive abnormality in hallucinations (Falret, *Des Maladies Mentales*, p. 281, Buchez and De Castelnau in the French debates of 1855-6); and the odder, inasmuch as not only may hallucinations be voluntary, but the mental pictures and memories, from which they are to be distinguished, are of course often involuntary.

³ I should have been tempted to regard these voluntary cases as conclusive had I not found Prof. Ball (*Maladies Mentales*, p. 122) explicitly claiming them as hallucinations provoked by an “abnormal sensation”. He does not tell us what the abnormal sensation is, or what causes it. He contents himself with pointing out that hallucinations are very like dreams; that some dreams are (and therefore, apparently, all dreams must be) provoked by external stimulation—say a knock at the door; and that we can sometimes direct the course of a dream at will: *ergo*, it is easy to see how some people may start a hallucination at will. It would be more to the purpose if he would introduce us to a dreamer who can designedly start a pre-arranged dream by knocking at his own door.

and persons who believe themselves to be in direct communication with spiritual guides. Such persons describe a voice which is yet soundless, which utters the "language of the soul" inside them, and which they hear by means of a "sixth sense," and without any apparent participation of the ear. Owing to the absence of a definable sensory quality, Baillarger distinguished this class as *psychic* hallucinations, in opposition to *psycho-sensorial*; and M. Binet himself is inclined to treat them as exceptional, and to grant them an origin from within. As one who holds that that is equally the origin of a large number of the undoubted *psycho-sensorial* hallucinations, I cannot recognise this exception; and to me the class in question is of interest, not as *distinguished* from the psycho-sensorial family, but as a true species of that genus, presenting the sensorial element reduced to its very lowest terms. These "psychic" hallucinations appear to me as the first stage of a graduated series—the embryonic instance of the investiture of an image or representation with a sensory or presentative character. In proportion as the sensorial element in hallucination is attenuated and dim, or full and distinct, will the perception appear internal or external; and these cases are simply the most internal sort, between which and the most external sort there exist many degrees of *partial* externalisation. This view has surely everything to recommend it. We can but take the patient's own account—that he has a distinct impression of words; and that this impression has an actuality which clearly separates it from the mere image or memory of words. How can this separation be conceived, except by recognising the presence of a genuine, though faint, sensorial element? Of what exactly this element may consist, is another question. Dr. Max Simon (in the *Lyon Médical*, vol. xxxv., pp. 435, 486) has made the very plausible suggestion that what is felt is a muscular impulse to form the words, rather than the sound of them—an impulse exhibited in its extreme form in the irresistible continuous vociferation of mania. On this account, Dr. Simon even refuses to regard the experience as hallucination at all. Here, however, I cannot follow him. For, however much a motor-current or impulsion towards speech be involved, the patient's sensation is of something other and more than this. For him, the words are not suggested or initiated, but actually and completely *produced*; in his description of the product we do not encounter terms of impulse or movement, any more than terms of sound. Here we surely trace the characteristic delusive element: what a normal person would recognise as purely subjective

experience has assumed an objective reality. In what then does the experience fall short of hallucination? If we adopt Dr. Simon's view, so far as to regard it as hallucination of the muscular sense, it becomes of interest to note that it does not admit of any parallel of a *visual* sort; for no order of visible objects can at all rival language in the closeness and directness of its association with a particular set of muscular movements. And this very fact—this absence of any *sightless* hallucinations to compare with these *soundless* ones—is perhaps the reason why the latter have passed as an isolated non-sensory class, with a separate mode of origin. I am concerned to substitute my own view of them; for to admit a genuine sensory element in the most "internal" species of hallucination—which all agree to be centrally initiated—will practically be to admit a similar initiation for *other* psycho-sensorial hallucinations.

And this leads me to a concluding word of criticism on M. Binet's hypothesis. We have seen that it is violent; may we not add that it is gratuitous? He has himself most rightly insisted on the fact that images and sensations are not separated by an impassable gulf, but merge into one another; and he will allow that in many hallucinations, the image—however evoked—gets charged with the whole fulness and vividness of sensation. But then how can it be treated *simply* as an image, superposed on a quite different sensation? To recur once more to Delbœuf's experiment, or to the brown butterfly and the black mice, M. Binet will admit that *somewhere* in the brain activities corresponding to green, to brown, to black, are going on: he is not the writer to make "the imagination" bob in among physical facts like a *deus ex machinâ*. By what right, then, are these activities to be confined to *ideational* tracts, and excluded from all access to a true *sensory* centre? What temptation is there to strain facts and theories in order to make out that the central initiation of sensation is impossible? The hypnotic "subject" will smack his lips over the sweetness of sugar when there is nothing in his mouth—will sniff with delight at a piece of wood when told it is a rose: may not the brain do for sight and hearing what it does for taste and smell? M. Binet seems really to have been led off the track by his own brilliant experiments with prisms and mirrors. Even in those cases, as he admits, the whole work of creation is done by the brain. Even for him the gist of the experience is not the atrophied external "sensation," but the hypertrophied, brain-imposed "image". We do but ask him to concede that the "image," which can here do so much, can else-

where do a very little more and, while charging itself with full sensation from within, can dispense with the atrophied contribution from outside. Why should it not? There is nothing to lead one to suppose that images would assume the unwonted vividness of sensations specially at moments when the external organs of sense are occupied with *other* sensations; rather the reverse. Is not the sort of day-dream which comes nearest to hallucination, favoured by *repose* of the sense-organs? When we want to call up the vivid image of a scene, to make it as real—as sensorial—as possible, do we not close our eyes? And what are the seasons of life in which genuine hallucinations are commonest? Are they not seasons of *sleep*? Are not *dreams* by far the most familiar instances of the projection by the mind of images that are mistaken for realities? It is just because they are *so* familiar, and waking-hallucinations comparatively so rare, that we are in danger of overlooking the essential similarity of the phenomena, and the light which the former class can throw on the latter. Indeed, if waking-hallucinations are to be taken as the pathological form of any normal function, much might be said for taking them as the pathological form of dreaming; and we might present the waking-dreams of haschisch-poisoning as a sort of intermediate link. The normal dream disappears when sleep departs; having been able to impose its images as realities only because in sleep our sensory faculties are to a great extent benumbed, and images cannot therefore be compared with actual presentations. Thus the normal dream cannot survive the corrective which the contact of the waking-senses with the external world supplies; it fades like a candle at sunrise; and its images, if they survive, survive as images and nothing more, emptied of all robust sensory quality. The hallucination, or pathological dream, on the other hand, does not require to be thus guarded from comparison with real presentations; its “hypertrophied images” are able to resist the normal corrective, for they are often as fully charged with sensory quality as the external realities which compete with them. But though we may thus regard hallucinations as a pathological form of dream, what is here more in point is the converse view—that dreams are a healthy form of hallucination. For it cannot but appear less likely that excitation of the external organs is a necessary basis for hallucinations, if hallucinations turn out to be most common at precisely those times when the external organs are least excited.

6. *The question of Cerebral Localisation.*

We may now proceed to an altogether different question—namely, at what part or parts of the brain the creative process takes place, and in what it can be conceived to consist. The distinction that has so long occupied us, between central and peripheral initiation, may henceforth be dismissed; for wherever *initiated*, hallucinations are assuredly *created* by the brain from its own resources. An initiating stimulus may probably come from any point on the line from the external organ to the central terminus, along which a nervous current passes in our normal perception of objects. But that stimulus will clearly not determine what the imaginary object shall be, or invest it with any of its qualities: it will merely set the creative machinery in motion; and the same stimulus—the same inflammation of the eye or ear—may set the machinery in motion a hundred times, and each time evoke a different hallucination. Where then, and what, is this creative machinery? It would be out of place here to attempt any minute account of the various theories, which have for the most part rested on anatomical observations; and the more so, that their details are still *sub judice*. But in a more general way the problem can be stated, and even I think to some extent determined.

If we begin at the beginning, we find agreement among the authorities up to a certain point. All are agreed in recognising *some* part or parts of the brain in which the nerves passing from the various sense-organs terminate, and where the impressions conveyed by the nerves produce the changes which are the physical basis of sensation, or—in the ordinary crude but convenient language—where “impressions are transformed into sensations”. As to the locality and extent of these, there is a conflict of views, which may be to some extent reconciled if we regard the process as taking place in several stages. Some (Luys, Ritti, Fournié) believe the principal scene of action to be the large central masses called the optic thalami; others (Schröder van der Kolk, Meynert, Kandinsky) would place the centre lower down—that of vision, for instance, in the corpora quadrigemina; others again (Hitzig, Ferrier, Tamburini) locate them higher up, in the cortex itself; and Goltz assigns them so diffused an area that the word centre becomes scarcely appropriate. But all are agreed, I imagine, that they are distinct from the tracts associated with the most highly-developed phenomena of consciousness—complete perception, ideation, memory, and volition; and even if the idea of local separa-

tion should come to be modified in the direction indicated by Goltz, the distinctions would be re-interpreted as differences of less and more complex activities. The authorities agree further in connecting the "sensory centres" in a special way with hallucinations. It could not, indeed, be otherwise when once the full sensory character of the phenomena is recognised; for that character can only be the psychical expression of changes at the sensory centres. Any particular activity of these centres which reaches a certain intensity will affect us as a particular sensation; whether excited (1) normally, from the sense-organ; or (2) pathologically, by local irritation on the line between the sense-organ and the centre; or (3) pathologically, but spontaneously, in the centre itself. In the first case the sensation will be a true one, *i.e.*, will correspond with a real external object; in the second and third cases it will not; but as sensation, it will be the same in all three.

Now for *one* view of the creation of hallucinations, these data are sufficient. We have only to suppose that, in cases (2) and (3), the agitation at the sensory centre falls readily into certain lines and combinations, so as not only to produce a large variety of sensations—colours, if it be the visual centre, sounds, if it be the auditory one—but to arrange these elements in various definite groups. Everything will now proceed precisely as if these effects had been due to the presence of a real object. The excitation will pursue its ordinary upward course to the highest parts of the brain, and will lead to intelligent perception of the sensory group as an object; while by a yet further process (which will probably take place only in the most complete or "external" form of hallucinations), a reflux current will pass downwards to the external organ, and the perception will be referred to the eye or ear, just as though its object were really acting on those organs from outside.¹ There then is the full-fledged hallucination; and its creative

¹ Krafft-Ebing, *Die Sinnesdelirien*, p. 11; Despine, *Étude Scientifique sur le Somnambulisme*, p. 328; Tamburini in the *Revue Scientifique*, 1881, p. 139. The mere subjective fact of this reference to the external organ would not prove (as Tamburini seems to assume) that the organ had been actually excited by the reflux current. But, in the case of vision, we have at any rate a fair amount of proof. First, there is the fact already noted, that pressure on the side of one eyeball doubles the phantom. It seems difficult to refer this result to association—the doubling of ordinary objects by such pressure being an infrequent and little noticed experience. Secondly, we have a case of *hemiopic* hallucination recorded by Dr. Pick, of Prague, where only the upper halves of imaginary figures were seen; and where it was ascertained that the upper half of the retina (to which

machinery, according to this view, lies wholly in the sensory centre.

But there is another view. We have noted *three* ways in which the machinery may be set in motion; but there is a *fourth* possible way. The excitation may come *downwards* from the higher part of the brain—from the seats of ideation and memory. And clearly this sort of excitation will have a dominance of its own. It will have *its own* psychical counterpart—an idea or a memory; and when it sets the sensory machinery in motion, that machinery will not now produce or combine a group of sensations determined by its own activity; but will merely embody, or as we might say *execute*, the idea or memory imposed on it. Here, then, the only machinery which is in any sense *creative* is situated in the higher ideational tracts. And if we wish to identify the exact starting-point of the hallucination, as such, we must fix it at the point of contact between the ideational and the sensory activities. As long as the nervous activity is confined to the ideational tracts, though there is creation, there is no hallucination; that word is never used to describe the mere image or memory of an object. It is only when the activity escapes downwards, with such force as strongly to stimulate the cells at the lower centre, that sensation floods the image, and we get the delusive percept or hallucination. The force of this downward current may exhibit all degrees. It is probable that even for the barest idea or memory of an object there is some slight downward escape, with a corresponding slight reverberation of the sensory centre; and where, as in rare morbid cases,¹ the escape is wholly barred, all power of calling up visual images is lost. With every increase in the force of the escape, there will be a rise of

of course the lower half of the figure would have corresponded) was anopic. Further, it has been noted by H. Meyer of "hypnagogic illusions," and by Gruithuisen of hallucinations which consist in the surviving of dream-images into waking moments, that they can give rise to *after-images*; this, however, might perhaps not imply more than the brief continuance of excitation at the *central* cells.

Wundt (*Phys. Psych.*, vol. ii., p. 356) seems to think that this centrifugal retinal stimulation is excluded in the cases where the phantom does not move with the movement of the eye. But, there being a physical process corresponding to the idea of a stationary phantom, why may not that process extend to the whole carrying out of the idea, so as to include the turning on or off of the retinal stimulation according as the phantom is looked at or away from?

¹ See the case quoted in the *Archives de Neurologie*, vol. vi., p. 352. "Je rêve seulement paroles, tandis que je possédais auparavant dans mes rêves la perception visuelle." The *Progrès Médical*, July 1883, has another interesting case.

sensory quality, and a nearer approach to absolute hallucination; and every stage will thus be accounted for, from the picture "in the mind's eye" to the phantom completely externalised in space. But whatever the degree of the delusion, its local origin is the place where the current, so to speak, bursts the sluice-gates which physically represent the distinction between ideas and percepts.

Here, then, are the two possibilities: (1) that hallucinations are produced by an independent activity of the specific sensory cells—the sensations which arise there being perceived as objects when the nervous current passes on centripetally to the higher parts of the brain; (2) that the part played by the specific sensory cells¹ is only a response to what may be called *ideational* excitation, propagated centrifugally from the higher tracts where the image has been formed.

In attempting to decide between these possibilities, we shall get little assistance from direct pathological and physiological observations. These have been mainly directed to an end rather the converse of ours—to utilising the facts of hallucination for fixing the locality of the centres, by inspection of the brains of persons who have been in life markedly hallucinated. But cerebral pathology, as Ball trenchantly remarks, has a way of lending itself to the demonstration of whatever one wants. Lesions rarely confine themselves neatly to specific areas. We find M. Luys, the chief advocate of the optic thalami as the primary seat of hallucinations, admitting the constant spread of lesions from the thalami to the cortex²; and Dr. W. J. Mickle³ considers—as the result of a number of very careful necropsies—that in cases of hallucination "thalamic disease plays a less important part than cortical". But on the other hand, he did not find that the lesions were definitely associated with the spots on the cortex which Ferrier and the advocates of restricted cortical localisation mark out as the visual and the auditory centres; while lesions at these spots—the angular gyrus and the first temporo-sphenoidal convolution—seem to be found in cases where no hallucination has been observed.⁴ This want of correspondence will

¹ I eschew here the expression "sensory centres," merely to avoid confusing with the higher "centres" to which the words "centripetal" and "centrifugal" refer.

² *Gazette des Hôpitaux*, Dec. 1880, p. 46.

³ *Journal of Mental Science*, Oct. 1881, p. 382.

⁴ *Journal of Mental Science*, Oct. 1881, p. 381, and Jan. 1882, p. 29.

seem less surprising if we remember the vast number of casual hallucinations where nothing that could be called a lesion exists; and also that the more persistent hallucinations of the insane belong, as a rule, to the *earlier* period of *irritation*, rather than to the *later* one when marked lesion has supervened, and dementia is creeping on.¹ Even if we take subsequent cortical lesion as a sign that the weak spot existed from the first in the highest part of the brain, this would be no proof that the specific sensory centre is cortical. If lesions are not bound to be locally restricted, much less are irritations; and there is nothing to refute the supposition above made, that, when the hallucination occurs, a current has passed downwards to the lower centre—the mischief in the cortex having been primarily an excitant of ideational activities only, and the hallucination being due (as Dr. Mickle well expresses it) to “a tumultuous disorderly reaction of disturbed ideational centres upon sensorial”. The same may be said of the *artificial* irritation of the “cortical centres” during life. Ferrier regards the movements which result when an electrical stimulus is applied to these areas, as an indication that visual or auditory sensations (*i.e.*, hallucinations) have been evoked. We may quite accept this interpretation, but still suppose that the primary seat of the sensation was not the spot where the stimulus was applied, but a lower centre on the path along which the irritation passed.²

¹ Luys, *Gazette des Hôpitaux*, 1881, p. 276., Despine, *Ann. Médico-psych.*, 6th series, vol. vi., p. 375; Tamburini in the *Revue Scientifique*, vol. xxvii., p. 141.

² It may be remarked, by the way, that what has been here said as to the relation of *hallucinations* to cerebral localisation will apply, *mutatis mutandis*, to *blindness*. We may suppose the action of lower centres to be *inhibited*, as well as abnormally excited, by stimulation from above. Thus the fact that blindness follows certain cortical lesions does not by any means establish the location of the principal sensory centres in the cortex. And as it happens, some of the facts of blindness seem absolutely adverse to that location—I mean the phenomena of so-called “*psychical blindness*,” where cortical lesion has produced loss of memory and of the higher junctions of *perception*; while *sensation* (according to Munk’s view) remains intact, and may gradually give rise to new perceptions and new memories. The observations of Munk and Goltz as to the survival of vision, though not of intelligent vision, after extensive cortical injury, seem distinctly favourable to the theory of the *lower* position of the specific sensory centres. Nor need that theory conflict with the most extreme view as to the absence of circumscribed areas in the cortex. Goltz himself would not deny that *some* place or places on the paths of the optic and the auditory nerve are specially connected with the fact that the stimulation of the one corresponds with sight, and of the other with sound.

We are thus thrown back on less direct arguments, derived from the nature of the hallucinations themselves. And I think the mistake has again been in imagining that one or other of two alternatives must be exclusively adopted—that either the lower or the higher origin of hallucinations is the universal one. All, I think, that can be fairly said, is that, while the first mode of origin is a *probable* one for some cases, the second mode is a *certain* one for others. Hallucinations produced *at the will* of the percipient *must* first take shape above the sensory centres. For it is indisputable that the *idea* of the object to be projected—the picture, face, sentence, or whatever it may be—must precede its sensory embodiment as a thing actually seen or heard; and the idea, as well as the volition, is an affair of the higher tracts; MM. Luys and Ritti will certainly not locate either of them in the optic thalami. But if the advocates of the first mode have thus ignored an important class of cases, the advocates of the second have erred by adopting a quasi-metaphysical standpoint. Thus Dr. Despine, who has given an extremely clear account of the centrifugal process (*Annales Médico-psychologiques*, 6th series, vol. vi., p. 371), argues that for a hallucination to arise, we first need an idea—“*an object which does not exist*”; and if in a way it is endowed with existence, this, as a purely constructive act, can only emanate from the seat of the highest psychical activities. There is some originality in extracting a physiological conclusion from the relation of the mind to the non-existent. But at this rate the image of the sun's disc on the wall would originate in a constructive act of the mind: it is as much “an object that does not exist” as the most elaborate phantasm. The non-existence of an object outside the organism is quite irrelevant to the course of nervous events inside; and whether we regard a psychic act, for any given case, as *constructive* or *receptive*, depends simply on whether the nervous excitation is spontaneous or is received from below. Now this may be applied, as we have seen, to the lower centres of sensation as reasonably as to the higher tracts of perceptive ideation; the former may *construct* as truly as the latter; that is to

It cannot be maintained that this psychical distinction has no local representative; for such a contention would logically lead to denying, *e.g.*, that the corpora quadrigemina in the lower animals have any particular relation to vision. Thus, whatever be the final issue of the vexed question of cortical areas of *perception*, a local distinction of genuine centres of *sensation* somewhere in the brain seems as certain as the distinction of the external organs themselves.

say, the configurations and activities of their cells may produce definite groupings of the sensory elements.

And for simple and recurrent forms of hallucination, much may be said in favour of this lower origin. It is in accordance with all that we know or conjecture as to nerve-tissue, that certain configurations and modifications of cells would be rendered easy by exercise; and thus the changes to which any morbid excitement gives rise might naturally be the same as have often before been brought about by normal stimulation from the retina or the ear. The elements would fall readily, so to speak, into the accustomed pattern. An object which has been frequently or recently before the eyes—a word or phrase that has been perpetually in the ear—these may certainly be held capable of leaving organic traces of their presence, and so of establishing a sort of lower memory. That this lower memory should act automatically, and independently of the will, seems natural enough when we remember how large a part even of the higher memory is also automatic: an unsought word, suddenly reverberating in the sensorium, is on a par with the images that emerge into consciousness without our being able to connect them with our previous train of ideas. Now it is remarkable how large a number of hallucinations are of this primitive type. I mentioned above that, among the sane, the commonest of all cases is to hear the name called; and even with the insane, the vocabulary of the imaginary voices often consists of only a few threatening or abusive words.¹ So of optical hallucinations. With the sane, a large number consist in the casual vision—an *after-image*, as we might say—of a near relative or familiar associate. More persistent cases are still frequently of a single object. I have mentioned the doctor and the black cow; similarly a lady, when in bad health, always saw a cat on the staircase.² And among the insane, a single imaginary attendant is equally common: our friend "Guiteau" above was an instance. Wherever such simple cases are not connected with any special *délire*, or any fixed set of ideas, they may, I think, be fairly (though of course not certainly) attributed to an activity following the lines of certain established tracts in the sensorium. We might compare this locality to a kaleidoscope, which when

¹ On this subject, see Dr. V. Parant in the *Ann. Médico-psych.*, 6th series, vol. vii., p. 384. These embryonic hallucinations often develop into more complex form; see Ball, *Maladies Mentales*, p. 67.

² Blandford, *Insanity and its Treatment*, p. 155.

shaken is capable of turning out a certain limited number of combinations.¹

But, on the other hand, the astonishing variety and complexity of other cases—whether visual appearances or verbal sequences—seem absolutely to drive us to a higher seat of manufacture; for they demand a countless store of elements, and limitless powers of ideal combination. The patient listens to long discourses, or holds conversations with his invisible friends; and what is heard is no echo of former phrases, but is in every way a piece of new experience. So, too, the number and variety of visual hallucinations which may occur to a single person, sometimes even within the space of a few minutes, is astonishing. The shapes and features of Dr. Bostock's apparitions were always completely new to him; the seers of "Faces in the Dark" who had in the course of their lives seen many thousand phantasmal faces, had never seen one that they recognised; Nicolai, who was never otherwise than perfectly sane, and who eventually recovered, continually saw troops of phantoms, most of them of an aspect quite new to him; and in insanity such a phenomenon is common enough. Even in the casual hallucinations of the sane, what is seen is less commonly a mere revival of an object which the eyes have previously encountered than an unrecognised person. Here, then, we have an immense amount of high creative work—of what in psychical terms we should call *par excellence* the work of the imagination; and this is work which we have good grounds for supposing that the highest cortical tracts, and they alone, are capable of performing. From our experience of the number and mobility of the ideas and images that the mind in a normal state can summon up and combine, we know that the cells of the highest cerebral areas are practically unlimited in their powers of configuration and association; but we have no right to assume the same inexhaustible possibilities as existing independently in

¹ Charcot (*Le Progrès Médical*, 1878, p. 38) has noted a curious form of unilateral hallucination, which occurs sometimes to hysterical patients on the side on which they are hemianæsthetic—animals, passing rapidly in a row from behind forwards, which usually disappear when the eyes are turned directly to them. Examined by the ophthalmoscope, the eyes of these patients appear absolutely normal. Charcot attributes amblyopia and achromatopsy, occurring in the same persons (as well as in non-hysterical cases of hemianæsthesia), to lesion at a point which he calls the *carrefour sensitif* in the hinder part of the internal capsule; and I assume that he would refer the hallucination to the same point. If so, he may be quoted as an authority for the infra-cortical initiation of simple and recurrent forms of hallucination.

any specific sensory centre—we might almost as well expect a kaleidoscope to present us with an ever-fresh series of elaborate landscapes. And over and above all this, we can point to the constant connexion between the delusions, the *conceptions délirantes* of the insane and their sensory hallucinations,¹ which makes it almost impossible not to regard the latter as a particular effect of the more widely diffused cerebral disturbance. The conclusion seems to be that for many hallucinations the mode of origin can be no other than what I have called the *centrifugal*.

I have throughout tried to express what I have called the centrifugal theory in such terms that it might be accepted even by those who locate the sensory centres themselves not below, but in, the cortex. According to these physiologists, the whole *double* transformation, of physical impressions into visual or auditory sensations, and of these sensations into complete perceptions and mnemonic images, would be practically referred to one spot. It must be admitted that this view seems at times connected with the want of a due psychological distinction between sensation and perception. But even supposing a specific centre of sensation to be thus equally the seat of psychic functions higher than sensation, it would still be none the less liable to be stimulated by parts of the cortex external to itself; and the nature of many hallucinations would still indicate that they depend on this stimulation, and not on a mere spontaneous quickening of morbid activity in the centre itself. For instance, a girl is violently distressed by seeing her home in flames, and for days afterwards sees fire wherever she looks.² One must surely trace the hallucination to the *distress*, and so to an "escape of current" from the seat of ideas and images other than visual ones. Again, in the case described above, where the hallucinations faithfully reflect the changes of the whole moral and intellectual bias, the local excitement in the sensory centre would still be traceable to an abnormally strong irradiation from the regions where the highest co-ordinations take place—these regions being themselves, *ex hypothesi*, already in a state of pathological activity. The other hypothesis would be that

¹ Falret, *Op. cit.*, p. 269; Wundt, *Op. cit.*, vol. ii., p. 356; Krafft-Ebing, *Op. cit.*, p. 19; Griesinger, *Op. cit.*, pp. 95-6.

² Griesinger, *Op. cit.*, p. 97. For an auditory case, *cf.* the account, in the *Lyon Médical*, vol. xxxv., p. 437, of a young Frenchman who was rendered insane by the German invasion, and who was then haunted by the sound of guns firing.

the mere hyper-excitability at the centre itself made it impossible for images to arise without getting hurried on, so to speak, into sensations by the violence of the nervous vibrations. This seems to be what Wundt has in view when he speaks of hallucinations as originating, not in an actual *irritation*, but in a heightened *irritability*, of the sensory centres. But then, what should cause images belonging to one particular order of ideas—the *diseased* order—to be picked out for this fate in preference to any others? The hyper-excitable centre in itself, as an arena of images, could have no ground for such a partial selection among the crowd of them which emerge during every hour of waking life. Among the endless and multiform vibrations involved, why should the excessive amplitude that corresponds to sensation be confined to a particular set? A reason must exist. The unique agreement between the sensory hallucinations and the more general moral and intellectual disorder must have its particular physical counterpart; and for this “a strong downward escape of current” is at any rate a sufficiently comprehensible metaphor.¹

¹Kandinsky (in the *Archiv für Psychiatric*, 1881), agreeing with Meynert, denies this centrifugal influence, and regards the contribution of the higher (front) part of the cortex to hallucinations as something quite different—*i.e.*, the *remission of an inhibitory function* normally exercised by this part on the specific sensory regions. But he fails to make out even a plausible case. His argument that the higher part cannot initiate hallucinations rests on no better ground than his own inability, when suffering from hallucinations, to transform mental pictures into hallucinations at will; and on the further experience—which was decidedly exceptional—that his hallucinations did not correspond in any marked way with his more general mental delusions. Again, if one asks in what the effect of the supposed inhibitory function would normally be shown, it must surely be in preventing ordinary mental images from taking on the more vivid characters of hallucinations. Now Kandinsky himself admits that in normal acts of imagination the cortical sensory region is stimulated from the higher part of the cortex; hence he seems involved in the difficulty of conceiving stimulation and inhibition to proceed at the same moment from the same quarter. Nor, again, does he make any attempt to show why the supposed inhibitory function, if it is normally operative, does not equally inhibit the normal stimulation derived from the periphery, *i.e.*, normal perception of objects.

NOTE.—For some supplementary remarks bearing on this final section, see ‘Notes and Correspondence,’ at the end of the present Number.—Ed.

II.—PROFESSOR SIDGWICK'S UTILITARIANISM.

By Rev. HASTINGS RASHDALL.

I HAVE for a year or two past been desirous to offer some remarks on Prof. Sidgwick's Utilitarianism, but, as he was known to be engaged on the preparation of a 3rd edition of his *Methods of Ethics*, it was thought best that I should wait to see how far this might contain any modification of his doctrine. Though no substantial change has resulted in his main positions, it is an advantage to be able now to examine them in their latest form. At the same time I have, by desire of the Editor of *MIND*, attempted a short critical review of the new edition as a whole, noticing especially some of the additions that seem intended to guard against or to meet criticism from my own point of view.¹ This review forms the first part of what follows.

I.

In noticing the alterations effected in the 3rd edition of *The Methods of Ethics*, it will hardly be necessary to say much upon the merits of the original work. *The Methods of Ethics* has long been recognised as a philosophical classic. It is one of those books of which it is safe to prophesy that no advance in philosophic doctrine will ever render them obsolete. It is not merely a piece of acute and subtle philosophical criticism but a work of art with a unity and beauty of its own as much as a Dialogue of Plato or of Berkeley. And nothing is so well calculated to increase the reader's admiration for Prof. Sidgwick's literary skill as a comparison of the successive revisions to which he has subjected it. Every edition represents a nearer approach to artistic perfection. By far the greater number of changes in the present edition affect only the exposition of the author's views. Redundances of every kind, discussions or parentheses which might seem a little unnecessary or not obviously relevant to the main line of thought of the paragraph or the chapter, have been pruned away; while the portions of the work in which the author's fundamental doctrines are unfolded, have undergone amplification and expansion. With each successive revision the main issues stand out more sharply and unmistakably, and the arguments become closer and more telling.

¹ The MS. of my original Essay was, in accordance with a wish which he did me the honour to express through the Editor of *MIND*, submitted to Prof. Sidgwick before the completion of the present edition.

In illustration of the improvements in exposition effected in the new edition, I may refer to the expansion of the argument in bk. i., ch. 3, by which the author seeks to show (against Hume) that every moral judgment, on any view either of the criterion or of the ultimate sanction of morality, involves an exercise of Reason beyond what is involved in bringing "before the mind ideas of actual or possible facts which modify . . . the resultant forces of our various impulses," and that consequently moral judgments are "objective". Prof. Sidgwick's answer to the question "whether Reason acts as a motive" is essentially the same as it was in the 1st edition. But it is perhaps made clearer than it was before that the "objectivity" of the judgments of Practical Reason does not actually *involve* an "imperative" or "precept" to do what it is judged ought to be done, though as a matter of psychical fact the cognition of such "objective" reasonableness does "in rational beings as such" give an impulse or motive to action in accordance with Reason. The applicability of the argument to every possible ethical method is more fully developed than before. Thus, while it is admitted that the attribution of moral judgments to the Reason would most naturally suggest that moral judgments are "universal truths such as the axioms of Logic and Mathematics," it is contended that this attribution is consistent with the view of those who hold that the moral faculty deals primarily with individual cases, and indeed that the term Moral Reason ought to be preferred by them to the use of the term Moral Sense, which, as Prof. Sidgwick well remarks, "suggests a capacity for feelings which may vary from A to B without either being in error". On the other hand, it is pointed out that many of those who deny that they can find in their consciousness any such absolute imperative as the author holds to be implied in all moral judgments, really mean only to deny "that they have any consciousness of moral obligation to actions *per se* without reference to their consequences": and on this view "the unconditional imperative really comes in as regards the end". The argument is then applied to the case of those "who hold that moral rules are only obligatory because it is the individual's interest to conform to them". Even on their view the "dictate of reason" comes in, inasmuch as they recognise private interest or happiness as an end at which it is ultimately reasonable to aim.¹ Finally, it is shown that "if we discard the belief, that any end of action is unconditionally or categorically prescribed by reason, the notion 'ought' is not thereby eliminated from our practical reasonings". Thus the proposition "if you want health, you

¹ Cf. the new paragraph on p. 106, in which it is pointed out that those who maintain that "pleasure is their good" or "the ultimate good"—"as a significant proposition not as a mere tautology"—imply "that the *meaning* of the two terms is different".

ought to rise early” implies, besides a mere statement of physiological fact, “the unreasonableness of adopting an end and refusing to adopt the means indispensable to its attainment”. Prof. Sidgwick’s view as to the possibility of *irrational*, because inconsistent and self-contradictory, action on *any* Method of Ethics is here put into a new and striking form:

“According to my observation of consciousness, the adoption of an end as paramount—either absolutely or within certain limits—is quite a distinct psychical phenomenon from desire: it is to be classed with volitions, though it is, of course, specifically different from a volition initiating a particular immediate action. . . . That Reason dictates the avoidance of a contradiction will be allowed even by those who deny that it dictates anything else: and it will hardly be maintained that such a contradiction as I have described between a general resolution and a particular volition, is not a matter of common experience.”

Evidences of a certain deepening of the author’s conviction of the necessity of a rational basis for Morality may be found in other parts of the book. In bk. iii., ch. 13, for instance, the greater clearness with which those strictly intuitive or axiomatic truths which (according to Prof. Sidgwick’s view) form the skeleton or framework of a rational system of Morality, are defined and distinguished from the pseudo-axiomatic moral rules in which they have generally been held in solution, becomes all the more striking when compared with the somewhat hesitating tone of some passages in the 1st edition which disappeared in the 2nd. But even in the 2nd edition, though the doctrines were there, it was not brought out with quite the same lucidity as in the present that there are, according to the author, two and two only “self-evident” or “axiomatic” moral principles which must form the basis of every Rational system of Morality, *viz.*: (a) It is reasonable to show an equal regard to all moments of the future consciousness of ourselves and others; (b) It is reasonable to regard one person’s good as of equal intrinsic value to that of every other person.¹ A difficulty has sometimes been expressed in grasping the main line of thought which connects the different parts of Prof. Sidgwick’s work. Many readers will, I think, find it made plainer than in previous editions that the plan of the work is to show:—(1) That there are the two above-mentioned formal intuitive principles of Morality; (2) That there are no others: hence the necessity for the elaborate examination of “Common Sense” Morality; (3) That (it being assumed that ultimate good must consist in some kind of consciousness) no content can be found with which to fill in the form prescribed by the Practical Reason, except pleasure or happiness measured quantitatively.

The first two of these principles—carrying with them the

¹ I omit the qualifications and explanations which are necessary for the more exact definition of these principles.

rejection of every Intuitionist system which professes to pronounce upon the morality of actions apart from all estimate of their probable consequences—will at the present day be accepted by most of those to whom the third of Prof. Sidgwick's main positions still seems opposed to the deepest moral convictions of mankind. On the validity of the argument by which it is supported I shall have something to say later on. Meanwhile, it is worth while to point out that it seems to be granted that this doctrine does not admit of the same kind of strict logical deduction as the two former principles.

Without further noticing mere improvements in exposition, examples of which might be multiplied indefinitely, I come to what is naturally the most important and interesting group of changes in the present edition, *i.e.*, the additions introduced by way of defence or further elucidation of the author's ethical doctrines in view of the criticisms or conflicting views of recent writers. The opponents with whom Prof. Sidgwick has most frequently to contend are on the one hand the late Prof. T. H. Green, and on the other hand the school of "Scientific Utilitarianism" represented by Mr. Herbert Spencer and Mr. Leslie Stephen. I will notice the passages in which he deals with the last-mentioned school first: these form on the whole the most valuable and important addition to the present edition.

In bk. ii. ch. 6 a detailed refutation of various theories about pleasure has been substituted for a more general argument to show the impossibility of any *a priori* substitute for the method of empirical observation as a test of the felicific qualities of action. In this chapter, besides an examination of Hamilton's semi-Aristotelian definition of pleasure as the "reflex of spontaneous and unimpeded energy of a power of whose energy we are conscious," the physico-psychical theories of Messrs. Spencer, Wundt, Grant Allen and Bain are successively passed under review. The bearings of some of these theories upon Ethics is not very close; but the general purport of the examination is to show that in the present state of scientific knowledge, no guidance as to the kind of actions to be pursued or avoided with a view to the attainment of the greatest quantum of pleasure is to be obtained from Biology so as to dispense with the necessity of making a comparative estimate (however great the errors and uncertainties to which such a comparison is liable) of the probable felicific consequences of two possible courses of action—an estimate based solely upon our own and other people's experience of the actual results of similar actions in the past. The somewhat ludicrous aspect, if I may venture to say so, which such theories as the above are made to assume when exposed to the dry light of Prof. Sidgwick's searching analysis, may perhaps lead the impartial reader to suspect that the time will come when the present craze for extracting ethical theory from a study of the habits of mollusca

and crustacea will be seen to have been as much the passing fashion of an age of biological discovery as Locke's speculation as to the possibility of solving moral problems by the aid of Algebra was the passing aberration of a great intellect dazzled by the brilliant vista of possible achievement opened out to his generation by the mathematical discoveries of Newton.

The attempt to find a scientific short-cut to the end which has otherwise to be attained by the blundering methods of Empiricism is, as has been suggested, the inspiring motive of Mr. Spencer's theory that "pains are the correlatives of actions injurious to the organism, while pleasures are the correlatives of actions conducive to its welfare". The practical outcome of such a theory is to "substitute Preservation for Pleasure as the end directly aimed at". The reasonableness of such a view—on the assumption that pleasure is the only good intrinsically desirable—Prof. Sidgwick examines in the last two sections of bk. ii., ch. 6, and again (with reference to the slightly different form given to the theory by Mr. Leslie Stephen, with whom the "health" or "efficiency of the social organism" becomes the practically ultimate moral end) in bk. iv., ch. 4. Passing over the criticism directed against the vagueness and uncertainty of the criterion of Morality thus put forward as a remedy for the uncertainties and perplexities of direct hedonistic calculation, we may say that Prof. Sidgwick's argument tends to show that the position of the "Scientific" Utilitarians really involves either—(1) The deliberate substitution of increase of population and of human longevity for happiness as the *summum bonum*; or —(2) The optimistic assumption that whatever tends to the increase of life tends also to the increase of happy life, and that Evolution must in every stage of the development of sentient beings, tend not merely towards the "survival of the fittest" but towards the production of the greatest quantum of happiness—an assumption which neither Mr. Herbert Spencer nor Mr. Leslie Stephen makes the slightest attempt to justify.

The above sketch of the line of argument adopted by Prof. Sidgwick in dealing with the pretensions of the "Scientific" Utilitarianism fails to do anything like justice to the completeness of his vindication of the old Empirical Utilitarianism as against the attempt to make Ethics a department of Biology, or at least to claim a monopoly of the right to deal with ethical subjects for those who have gone through a propædæutic of Physical Science. All that I have attempted is to point the reader to the parts of the work in which these important criticisms will be found.

In so far as Mr. Stephen shares with Mr. Spencer the belief in the bearing of the Evolution theory upon Ethics, Prof. Sidgwick's arguments apply in the main with equal force to the systems of both these writers. A large part of *The Science of Ethics* is, however, unaffected by the questions at issue between the "Scientific" and the "Empirical" schools of Utilitarianism. In the one place

in which Prof. Sidgwick notices those parts of Mr. Stephen's work in which he descends, so to speak, from his scientific stilts, he does, I venture to think, somewhat scant justice to a theory which, coming from a writer so free from theological or conservative bias as Mr. Stephen, forms a valuable contribution towards a reconciliation between Intuitionist and Utilitarian Morality, *i.e.*, his view of the Moral Law as, strictly speaking, "internal". Thus, in the case of veracity, the internal rule is "Be trustworthy," to which the external "Lie not" is merely a rough approximation. It is true, as Prof. Sidgwick contends (p. 320), that the case of a lie told in legitimate self-defence (*e.g.*, to put a man off the track whom one knows to be seeking an opportunity of robbing or murdering one) is not, strictly speaking, covered by the principle that "in the exceptional cases the mutual confidence would be violated when the truth, not when the lie, is spoken". But Prof. Sidgwick's criticism does not really touch Mr. Stephen's main contention, *viz.*, that no rule which is expressed in the form "Do this," can be formulated which will cover all the possible contingencies under which the general principle of conduct which it prescribes ceases to be applicable, while the internal rule admits of no real exceptions. A man does not become less trustworthy, or, as I should have preferred to express it, less *truth-loving*, when some conflicting duty,¹ *e.g.*, the duty of preserving life against illegal violence, requires him to make an untrue statement. It is true that the question "under what circumstances the confidence of A that I shall speak the truth may legitimately be disappointed in order not to disappoint the confidence of B that I shall defend his life and honour," is one which Mr. Stephen's explanation does not in any way enable us to answer. But Mr. Stephen's whole contention is that no *rule* can be laid down which will enable the mere calculator of consequences to decide rightly in delicate cases of conflicting duties. Let the internal rule be really observed—given a real love of truth, together with the desire to fulfil other duties—and the man will, if intellectually competent to calculate the consequences of alternative courses of action, allow their proper weight to the conflicting claims. But no external rule, or body of rules, will enable a man, however sincerely he desires to observe it, to solve such questions rightly who has not as one of the elements of his character such a

¹ It would be hardly too much to say that no *purely* personal ill consequences would justify a lie in answer even to a question which the asker had no right to put. It would be generally admitted that it would not be right to tell a lie in answer to a question intended to expose the person to whom it is addressed to mere ridicule or annoyance, though Prof. Fowler seems to lean in the contrary direction (*Progressive Morality*, p. 189). The case of anonymous authorship involves social interests of considerable magnitude, but this case seems to be met by the well-known reply, "I did not write it, and I should have said the same if I had done so".

love of truth as to make truth-speaking an instinct upon which nothing but the plainest prevision of the social ill effects of truth-speaking in one particular instance will prevent his acting. It is possible to sympathise strongly with Prof. Sidgwick's vindication of the possibility and necessity of a casuistry based upon a calculation of the consequences of alternative courses of action, especially upon broad general issues, *e.g.*, the lawfulness of vivisection or of field sports or the expropriation of savage tribes, and at the same time to admit that character is as important a qualification for the right decision of such questions—even when the inquirer is not personally interested in their decision—as intellectual prevision of consequences. And in the case of minute and delicate questions of individual conduct, we must fall back with Aristotle upon the principle that *ἐν τῇ αἰσθήσει ἡ κρίσις*.

The doctrine that the true Moral Law is "internal," that its formula is "Be this" rather than "Do this," does not, of course, involve that view of morality which makes character an "end-in-itself"; but the admission of the former principle forms an important step towards the latter. Prof. Sidgwick would, perhaps, have less difficulty in appreciating the position of those who regard morality as an end-in-itself if he saw as clearly and fully as Mr. Stephen the inadequacy of a morality which limits its injunctions or prohibitions entirely, or even "primarily," to acts.

Second in importance to the new matter called forth by the publication of *The Data of Ethics* and *The Science of Ethics* are those suggested by the posthumous ethical treatise of Prof. Green.¹ In the first edition of *The Methods* Prof. Sidgwick observes that "no systematic moralist has seriously taken universal Perfection (as distinct from Happiness) as the ultimate end to which all moral rules should be explicitly referred". This passage disappeared from the 2nd edition: and in the present edition the actual existence of a method of "Universal Perfectionism," which undoubtedly represents Green's view of the moral criterion, is still more distinctly recognised. Prof. Sidgwick's most direct reply to this view is contained in bk. iii., ch. 14, which has been completely re-written. The author's main contention is that, since on inspection it is found that our notions of special virtues all contain some reference to "good" or "well-being" as an ultimate standard, we are involved in a logical circle if we make "general good" to consist in general virtue. This consequence only follows when it is admitted that the end which the special virtues promote, and by reference to which they are defined is, in the moral sense,

¹ It will be convenient for me here to acknowledge my great obligations throughout the criticism which follows to the revered Oxford teacher whose pupil no one could well have been without gaining from him something more than instruction. It is probable that I may have reproduced a sentence or two from his writings without express acknowledgement.

"good". It might be conceivably maintained that the whole or a large part of virtue consists in the promotion of the pleasure of others, and yet that the really good thing is the benevolence, not the pleasure which it produces.¹ The fact that virtue—putting aside, for the sake of clearness, that part of virtue which consists in making others virtuous—is defined and recognised by its conducivity to pleasure, does not prove that virtue is valuable only as a means to pleasure: it does not prove even that the pleasure which the virtue produces has itself any intrinsic value or "goodness" at all. Pleasure may be the index or criterion of virtue without being its *τέλος*: just as its hardness is the one unfailing proof that the diamond is a diamond without constituting its main value in the eyes of the finder or the purchaser. Of course this position is only open to one who is satisfied on other grounds that felicitic qualities of character are "good" though the happiness to which they tend is of no ultimate value. To the present writer (as to Prof. Sidgwick) such a position seems to be in a high degree paradoxical. The question "What should have led anyone to pronounce the conduct of the good Samaritan better than that of the priest who passed by on the other side, if the sufferings of the man fallen among thieves were no evil and his subsequent relief no 'good'?" is a question to which it is difficult to see what answer can be given. But, all the same, it is necessary to insist strongly that such a view does not, as Prof. Sidgwick endeavours to prove, involve a logical circle. In answer to the question, "What is virtue?" it is perfectly logical to reply, "To promote pleasure and felicitic qualities;" and in answer to the question, "What is good?" to reply, "Felicitic qualities, and qualities which produce felicitic qualities in others,"² or rather "The habitual state of the will which results from the possession of these qualities." The position is illogical only in the sense that it is destitute of rational basis: it is, in short, a theory to which, in my judgment, we are not led by the result of a properly conducted appeal to Prof. Sidgwick's two tests of the validity of a theory of Moral Philosophy, *viz.*, to one's own "intuitive judgment after due consideration of the question when fairly placed before it: and, secondly, to a comprehensive comparison of the ordinary judgments of mankind". To my own mind the application of these two tests gives unmistakably a result midway between the respective theories of Prof. Sidgwick and the late Prof. Green, *viz.*, that the relief to the man fallen among thieves was a "good," but that the good

¹ This was certainly the view of Green, who refused to recognise pain as intrinsically an evil.

² I do not give this as being actually Green's answer to the question of the moral criterion: it would by itself obviously give a very false idea of his views: but it appears to me to present, even in an exaggerated form, that element in his position which is supposed to involve the logical circle.

Samaritan's humanity was a *greater* "good"—not to the recipient of his charity (which would obviously be absurd), but both intrinsically and to the good Samaritan himself. If the logical objection raised by Prof. Sidgwick against Green's Stoicism is invalid, it is *a fortiori* invalid against the very commonplace position just stated. That this position is the logical outcome of Prof. Sidgwick's own premisses, an attempt will be made in the latter part of this paper to show.

Before entering, however, upon a brief examination of the logical basis of Prof. Sidgwick's Hedonism, I must notice one or two of his criticisms on some points of detail in Green's moral philosophy. Prof. Sidgwick succeeds in pointing out *at least* some ambiguities in Green's use of psychological terms. The most important of these is his use of the term "satisfaction". "Self-satisfaction" is, we are told, sought in all moral effort—a doctrine which, in the absence of further explanation, seems at first sight somewhat inconsistent with the principle, so strongly insisted upon by Green, of the "disinterestedness" of the desires in the realisation of which this "self-satisfaction" is sought.

Closely connected with this doctrine of "self-satisfaction" is the view that the object of desire in all cases is the "apparent good of the agent".¹ This doctrine Prof. Sidgwick criticises with some force (p. 108) as inconsistent with the psychological possibility of the state of which most men have had too frequent experience—the state of mind depicted in the famous "*Video meliora proboque; Deteriora sequor*". Prof. Sidgwick has no greater merit as a moral philosopher than his persistent refusal to acquiesce in any of the forms in which the old Socratic dogma, *ὅτι οὐδείς ἑκὼν ἀμαρτάνει*, is continually disguising itself.

Less satisfactory is his treatment of Green's assertion that "pleasure (in distinction from the facts conditioning it) is not an object of the understanding". Prof. Sidgwick replies in effect that it is possible to "conceive of" pleasure thus abstracted from its conditions by attending only to this one element in the total consciousness of the man experiencing the pleasure. But while it may be admitted that Green attached too much weight in the treatment of ethical questions to mere logical or metaphysical subtleties of a certain kind, as, *e.g.*, when he objects to speaking of a "sum of pleasures" as an object of desire, Prof. Sidgwick, on the other hand, appears to me not to

¹ That there is a kind of consciousness not pleasure which is the result of moral achievement, and which is superior to all possible pleasures which duty may require us to forego, I can quite understand; but to maintain that some "satisfaction" is *sought* in all moral effort seems to me to involve the mistake so commonly made by religionists who make the pursuit of "peace" or "consolation" the highest of motives. Moreover, to define this satisfaction as a "certain possible"—and therefore future—state of the agent makes it difficult to explain the motives of a voluntary martyrdom on the part of a disbeliever in immortality.

realise how complete an abstraction is the pleasure of a rational being apart from the other elements of the consciousness into which it enters. Thus, in answer to the contention that we sometimes prefer what are commonly called higher pleasures to lower ones without necessarily thinking the former more intense than the latter, he says that "what in such cases we really prefer is no longer the consciousness itself, but either effects on future consciousness, more or less distinctly foreseen, *or else something in the conditions or concomitants of the present consciousness*". No doubt the pleasure is preferred on account of its "conditions or concomitants": the pleasure abstracted from the "conditions or concomitants" is pleasure abstracted from everything which makes it a higher pleasure, from everything which makes it commend itself to the Practical Reason as more worthy of a rational being's enjoyment than the lower pleasure. It is just because some knowledge of the "conditions and concomitants" of his pleasure always does enter into the consciousness of a rational being enjoying pleasure, that it is impossible for him, desiring as he does other things besides pleasure, and recognising it as "right" or "reasonable" for him to desire such other objects, to leave them out of account in considering the intrinsic desirability of different kinds of consciousness for himself and other rational beings. To ask what is the ultimate good for man, abstracted from his knowledge of the "concomitants or conditions" of his pleasures, *e.g.* their effect on other people's happiness, is really to ask what *would be* the good for man if he were a hog.

The passages which I have noticed will perhaps be sufficient to give a general idea of the nature and direction of the changes which the book has undergone: though they fail to do justice to their cumulative effect in increasing the interest, completeness and finish of the book. It will be seen that the alterations have been in the main literary only: the new edition represents no general modification of Prof. Sidgwick's ethical position beyond what is involved in the increased clearness and decision with which that position in itself and in its relation to other systems seems to be grasped by the mind of the author, and, in consequence, presented to the reader.¹ I hope, therefore, that I shall need no further apology for devoting the remainder of this paper to an examination of Prof. Sidgwick's fundamental doctrines, instead of dwelling at greater length on what appears for the first time in the present edition.

¹ There is, for instance, (so far as I can observe) no change of opinion so marked as that which may be traced in the author's *leaning*—he expresses no positive judgment—in the chapter on Free-will between the first two editions. If it were my object to discover minor modifications of opinion in the 3rd edition, I should look for them rather in the omissions than in the additions. But it would, of course, not be safe to assume that the author would in all cases consider as indefensible statements or modes of expression which he has withdrawn.

II.

Benthamism has certainly the recommendation of extreme simplicity. The moral philosophy of the most voluminous of English philosophers admits of being summed up in a few sentences.¹ All desires are desires of pleasure: the motive of every action is desire of pleasure: pleasure is the only good. All pleasures are intrinsically of equal value: "quantity of pleasure being equal, push-pin is as good as poetry". Good conduct is the conduct which the collective Society endeavours to force upon individuals for its own advantage: it is the conduct which produces the greatest possible happiness or pleasure. To this principle is added the qualification, logically inconsistent with pure hedonism (according to which equal amounts of pleasure must be equally good, however distributed), that in what has been called the distribution of action for happiness "every one shall count for one, nobody for more than one".

John Stuart Mill professes to accept fully and unreservedly the hedonistic psychology. "It results," he says (*Utilitarianism*, p. 57), . . . "that there is in reality nothing desired except happiness. Whatever is desired otherwise than as a means to some end beyond itself, and ultimately to happiness, is desired as itself a part of happiness, and is not desired for itself till it has become so. Those who desire virtue for its own sake, desire it either because the consciousness of it is a pleasure, or because the consciousness of being without it is a pain, or for both reasons united." Yet he contends that "virtue not only is to be desired, but that it is to be desired *disinterestedly* for itself". (*Ib.* p. 54.) Association, the all-potent solvent which Mill had inherited from his father, is the means of reconciling this and all other contradictions between psychological dogmas and psychological facts. The saint's love of virtue for its own sake is explained as being an instance of the process by which a miser comes to love money for its own sake. So far Mill is still, intellectually speaking, a consistent hedonist, however much facts and the meaning of words may be distorted in the attempt to connect the new piece with the old garment.

But the rent left by the next patch upon the Benthamite homespun is absolutely glaring. "It is quite compatible with the principle of Utility," he says (*Ib.*, pp. 11-12), "to

¹ In view of Prof. Fowler's recent assertion that a selfish view of morality "has been ignorantly attributed to Bentham," I may call attention to Prof. Sidgwick's important new note on the variations in Bentham's opinions or mode of expressing them (p. 82).

recognise the fact that some kinds of pleasure are more desirable and more valuable than others. It would be absurd that while, in estimating all other things, quality is considered as well as quantity, the estimation of pleasures should be supposed to depend on quantity alone." Now, of course, Bentham had included "intensity" among the qualities which determine the value of a pleasure in the hedonistic calculus. But Mill, in undertaking to explain what it is that "makes one pleasure more valuable than another, merely as a pleasure, except its being greater in amount," must be understood to maintain that the higher pleasure may be preferred although not greater in amount or intensity than the lower. And yet we are told that it is preferred "irrespective of any feeling of moral obligation to prefer it," *i.e.*, (according to Mill's principles) when there is no fear of the pains of law or opinion for neglecting to prefer it. Would it be possible to bring into stronger relief the necessity for admitting that in such a case something other than pleasure determines the will of the person who prefers the higher pleasure? If the amount of pleasure conceived to be derivable from two courses of action be the same, and one is chosen because it is "higher," the overplus of motive-power possessed by the alternative chosen must consist in something other than pleasure: the "higher" pleasure carries the day for some reason other than its superior pleasurable-ness: in other words, something other than pleasure determines the will and so is an object of desire.

Prof. Sidgwick completely reverses the mode of expanding in an altruistic direction the Benthamite hedonism adopted by Mill. It is because he does so that his Utilitarianism is, in an intellectual point of view, so great an advance upon Mill's: though the change of front involves some sacrifice of the peculiar unction which makes Mill's *Utilitarianism* so persuasive a book to young students of philosophy. Prof. Sidgwick sees that the admission of difference in kind among pleasures is utterly irreconcilable, not only with the hedonistic psychology (which he abandons), but with the hedonistic conception of ultimate good; while, on the other hand, the "greatest-happiness principle" defined as "the creed which holds that actions are right in proportion as they tend to promote happiness, wrong as they tend to produce the reverse of happiness," is not *primâ facie* bound up with the doctrine that all desires are desires of pleasure. It is worthy of note, as an illustration of the kind of progress which is to be expected in philosophy, that Prof. Sidgwick's superiority to

Mill in the matter of psychology is due mainly to his greater willingness to learn from writers of other schools. The absolute inconsistency of the hedonistic psychology with the commonest psychological observations had been demonstrated a century before by Butler: but to Mill Butler's *Sermons* were as other sermons. It had been shown by Butler that most of our desires are desires for objects, not desires for pleasure; that, on the supposition that the motive of every action is desire of the greatest possible amount or intensity of pleasure, the worst as well as the best passions of human nature—"sudden anger" and "settled resentment," as well as love or compassion—are absolutely inexplicable. The attainment of an object gives pleasure because it has been desired; but it is only in the case of a very narrow range of desires that the object is desired because it is thought that it will produce more pleasure than the gratification of any other desire; while it is often desired (both in the case of conspicuous acts of what is commonly called self-sacrifice, and in the case of great crimes and great follies) in spite of the clearest knowledge that the attainment of the desire will involve the loss of infinitely more pleasure than it brings with it. The satisfaction of a desire is, of course, always conceived of as pleasant; but it is mere playing with words to maintain that the man who murders another to revenge an injury does so because his own previous experience or the experience of others has led him to believe that even successful vengeance (and impunity is often known to be out of the question) brings more pleasure than could otherwise be obtained in the course of a life devoted to its pursuit. The murderer knows that he is sacrificing a pleasant life for the pleasure of a moment; but at the moment he desires the object which will bring that one pleasure only, more than a lifetime of other pleasures.

Prof. Sidgwick admits as a psychological fact the existence of "disinterested affections," benevolence among the number. He rightly, however, distinguishes (with Butler, but in opposition to Shaftesbury and others) between the possibility of action motivated by desire for the happiness of others and the reasonableness or obligation of gratifying such a desire in opposition to private interest. In point of disinterestedness, benevolence is on a level with malevolence. But, besides these "particular affections" or "desires for objects," Prof. Sidgwick recognises the possibility of a "desire to do what is right and reasonable as such"; in the language of Butler, of a desire to do

what Conscience prescribes; or, in the language of Kant, of a "respect" for the law discerned by Reason. When a man contemplates himself in his relations to his fellow-men and asks what it is reasonable for him to do, he cannot but recognise that he seems made to promote public good. A reasonable man contemplating the world as an impartial spectator, uninfluenced by private desires or passions, would necessarily recognise benevolence as that affection in the "constitution or scheme of human nature" which ought to be gratified before merely self-regarding desires. To the disinterested spectator more good must appear preferable to less good, irrespective of the question whether it is A or B who is benefited, while the same disinterested Reason will undoubtedly prescribe an equal distribution of good among beings capable of enjoying it. The right course of action is that which would appear reasonable to such a disinterested spectator,¹ and to the agent himself in so far as his judgment as a rational being is unbiased by private desires: it is the course of action which, if he had to legislate for others unbiased by such desires, he would prescribe to all, the course which as a rational being he recognises as "fit to be made law universal". In this view of Duty as the reasonable course of action, and in holding that disinterested love of the reasonable may be a motive of action, Prof. Sidgwick follows Butler and Kant, who are on this fundamental point in perfect agreement. But Prof. Sidgwick (here following Butler and diverging from Kant) also recognises that to the rational being placed in the position of the impartial spectator, it must appear in itself equally reasonable that each man should pursue his own greatest happiness. When a man's own greatest happiness would have to be purchased by the sacrifice of greater happiness on the part of others, the *more* reasonable course would seem to be the promotion of the happiness of others at the expense of one's own; and an impulse more or less strongly impelling to such a sacrifice is actually felt—at least at times—by all rational beings. But, all the same, it remains something apparently unreasonable—something contrary to that order of things which a perfectly rational being endowed

¹ I am here developing what I believe to be at bottom the meaning of Butler's "principle of reflection called Conscience," and of Kant's "Practical Reason," in words not actually employed by them. The reference of moral questions to the verdict of the disinterested spectator is characteristic of another school of Moral Philosophy, of which Hutcheson is the best representative, but with this school the appeal is made rather to the emotional or æsthetic sensibilities than to the Reason of the spectator.

with unlimited power might be expected to appoint—that the happiness of one should involve a voluntary deduction by another from his own in itself no less important happiness. Man is made to promote public good, but no less evidently is he made to promote private good. Hence Prof. Sidgwick, with Butler, abandons the attempt to find in cases of collision between the requirements of Universalistic and of Egoistic Hedonism any course of action which is completely reasonable—reasonable from every point of view—without the admission of theological postulates. Entirely apart from such postulates, altruistic conduct can be shown to be reasonable: it is the course which will be chosen, as the most reasonable of the two alternatives, even in opposition to interest, by the man in whom the desire to do “what is right and reasonable as such” is dominant; but such a course can be shown to be *the one and only* reasonable course, and the contrary to be completely and wholly unreasonable, only upon the supposition that there exists “a harmony between the particular and the universal Reason,”¹ that the universe is constructed upon a reasonable basis. Prof. Sidgwick certainly cannot be charged with any desire to conceal the extent of his approximation to the position of Butler and Kant. He is one with them in the point of view from which he regards the whole subject. He does not look upon the Science of Morals as a branch of Natural History. He gives up altogether the attempt to find the ultimate end of action by “induction”: he sees that no accumulation of observed sequences, no experience of what *is*, no predictions of what *will be*, can possibly prove what *ought to be*. He neither dismisses the “ought” as a figment (with Bentham), nor involves the whole discussion in inextricable confusion (with J. S. Mill) by failing to distinguish between the desirable and the desired and calling a desire for the happiness of others a “desire for happiness”—a

¹ This phrase is taken from the 1st edition, but Prof. Sidgwick's statement of the absolute necessity of such a harmony to the construction of a logically coherent Science of Ethics is rather strengthened than weakened in the 2nd and 3rd editions, though he seems, rather from a desire not to intrude upon the province of theology than from any change of personal opinion, to assert less strongly, or not to assert at all, that the intuitions of Moral Philosophy actually do supply a basis for Theology. “If,” he says, “we find an ultimate and fundamental contradiction in our apparent intuitions of what is reasonable in conduct, we seem forced to the conclusion that they were not really intuitions after all, and that the apparently intuitive operation of the Practical Reason is essentially illusory. Therefore it is, we may say, a matter of life and death to the Practical Reason that this premiss should be somehow obtained” (p. 504).

mode of speaking which would allow us to define the passion of revenge as a "desire for pain, injury or death". In one word, Prof. Sidgwick shares with the father of Idealism the supreme conviction that *νοῦς κρατεῖ πάντα*. In so far as the motive of moral action in the individual is concerned, Prof. Sidgwick is in fact an "Intuitionist".

He is a Hedonist only in his view of the nature of Ultimate or Universal Good, and consequently in his view of the criterion of morality. The fundamental question raised by Prof. Sidgwick's position is the logical compatibility of a rationalistic theory of duty with a hedonistic conception of the true good or *τέλος* of man. Before discussing this question, it will be well to re-state Prof. Sidgwick's position in a somewhat more concise form.

Looking upon human nature in Butlerian phrase as "a system" or "constitution," Prof. Sidgwick may be said to find in it three distinct groups of "affections" or "propensions," viz., (1) the desire for happiness or private good, or "self-love"; (2) various disinterested "desires for objects," i.e., passions such as benevolence, hunger, anger, &c; (3) the desire to do what is right and reasonable as such. In the "calm moment" when a man, under the influence of this last desire, sits down to ask what it is reasonable for him to do, reflection convinces him, according to Prof. Sidgwick:—(a) that for himself (assuming certain postulates which upon the whole he is justified in assuming) it is reasonable to gratify, in cases of collision, benevolence in preference to self-love, but to make the gratification of all other passions subordinate and instrumental to the gratification of self-love; (b) that in acting for the good of others, it is reasonable to gratify their other desires or passions only in so far as these can be made subservient to the satisfaction of their desire for happiness. In short, in himself he is to recognise benevolence as having a prerogative over self-love, though both desires are rational; while in others he is to treat self-love as alone among their desires or propensions entitled to gratification. We are thus brought face to face with the central difficulty of Prof. Sidgwick's position. That difficulty lies in the assignment of a different end to the individual and to the race. Prof. Sidgwick in fact proves unfaithful to the principle which he professes to accept from Kant—not, indeed, as an adequate definition, but as a fundamental characteristic of the moral law—that it shall be "capable of serving for law universal". It is pronounced right and reasonable for A to make sacrifices of his own happiness to the good of B; yet, in considering what is B's

good, he is to treat him as a being for whom it is right and reasonable to live solely for his own happiness, to have no desire gratified but his desire for pleasure. It is a condition of the moral law, Prof. Sidgwick tells us, that it shall be capable of serving for law universal; yet that law requires each individual to act upon the hypothesis that he is the only member of the human race subject to it. Reason, we are told, requires us to act at times in a way contrary to our interest from love of the "right and reasonable as such"; yet we are to treat all other human beings but ourselves as incapable of rational desires, as beings for whom it is reasonable to desire nothing but pleasure. Moral action is rational action; and rational action consists in promoting the gratification of the possibly irrational, and therefore immoral, desires of other people.

Of course it will be said that the Universalistic Hedonist will promote the morality of others as a means to the greater happiness of the whole. But if so, it seems to follow that that part of the happiness of each man which is inconsistent with his promoting the happiness of others forms no part of the end which the Universalistic Hedonist will seek to promote; it is no part of that which it is right and reasonable to desire; in other words, it is not desirable for him. It may be said that it *would be* desirable *if* it did not produce more loss of pleasure to others than it gains for the individual enjoying it. But that is only to say that the universal end which we seek to promote for the human race would be other than it is, were human society organised in a different way to what it is. To say that pleasure must be the only end of human life because it might seem that a life passed on a desert island could have no other object, is to seek to arrive at the true end of man by abstracting him from the conditions which make him man: it involves what Butler calls "the speculative absurdity of considering ourselves as single and independent, as having nothing in our nature which has respect to our fellow-creatures". Confining ourselves to man as he is and to human society as it is at present constituted, the admission that altruism is rational compels us, as I venture to submit, to introduce an important qualification into our conception of the happiness which we ought to seek to realise for society. The end becomes not mere happiness but a social or moral happiness—a happiness which is consistent with a disposition on the part of each member of the society to promote the happiness of every other in so far as he can do so without sacrificing a greater amount of his own happi-

ness. Goodness would thus seem to have entered into our practical conception of the end which we are to regard as desirable for human society.

And yet we are told that this "desirable" is after all only relatively desirable—desirable as a means, not as an end; and that the only thing ultimately desirable is pleasure; consequently, the virtue which produces it forms no part of "the good" to the individual who has it. How then can it any longer be pronounced right and reasonable to allow one's actions to be governed by the "desire of the right and reasonable as such"? Does not the conviction of the reasonableness of gratifying such a desire at a sacrifice of pleasure carry with it the conviction that the satisfaction of that desire, even supposing it should fail in producing the result at which it aimed—*e.g.*, when a man risks his life in a futile effort to save a drowning man—is in itself or intrinsically "good"? If this question be answered in the negative, the existence of such a "desire of the reasonable" might still be admitted as a psychological fact, but surely, in the mind of the philosopher who has discovered wherein ultimate good really consists, the apparent reasonableness of desiring something else must vanish away: the desire of the reasonable will itself appear an unreasonable desire. And if the reasonableness of such sacrifice of one's own true good be made to depend on the prospect of attaining in another world the pleasure that has been lost in this, does not the system which began with such a convincing and fair-seeming demonstration of the reality of "disinterested motives" to right action end in the quagmire of Paleyism? What is the good of demonstrating the possibility of disinterested virtue if it turns out after all that virtue, *in so far as it is really disinterested*, is unreasonable? Looked at from the universal point of view, virtue when it becomes self-sacrificing is pure loss, so much deduction from the total "good" of the sentient creation. The world is actually, it is admitted, a community of rational beings all recognising and some obeying the obligations of altruism; yet, according to Prof. Sidgwick, it would be a better world were there no call or sphere for virtue, were it actually (with improved social arrangements) the *ὅλῳ πάλις* that it is represented to be by a Bentham or a Paley, a Thrasymachus or a Mandeville. And yet we are told that we must believe in God and Immortality because the universe must be supposed to be a reasonably constituted universe!

Before, however, discussing the rational basis of such a Theology as is postulated by Prof. Sidgwick's system of

Ethics, it will be well to notice the author's reply (pp. 401-2) to objections of the kind here taken:—

"It may, however, be said that the individual who prefers another's happiness to his own, on the ground that it is reasonable to do so, must regard the realisation of Reason, and not happiness, as his own Good—since we have defined Good to be what a man may reasonably desire; and that if it be a Good for him to act on this preference he must recognise it as a Good for others; so that there will be two incommensurable ultimate Goods for each and all, Conformity to Reason and Happiness. Here we must carefully distinguish a mere question of words from a question of ethical principle. The latter it will be perhaps easier to raise clearly by asking (1) whether real self-sacrifice—the sacrifice of one's own 'good on the whole' to that of others—is conceivable; and (2) whether, if so, what appears to be real self-sacrifice is under any circumstances dictated by the moral Reason and Conscience of mankind. It seems to me clear that Common Sense answers these questions in the affirmative. . . . I follow Butler in recognising this Dualism of the Practical Reason, which I regard as an irreducible result of ethical reflection; and I consider that the best mode of recognising it is to adopt as final the distinction in ordinary use between the terms Right and Good, and say that, in the case supposed, self-sacrifice is judged to be morally right, though, *ex vi termini*, it is not judged to be Good on the whole for the self-sacrificing individual. . . . There is something that it is reasonable for him to desire, when he considers himself as an independent unit, and something again which he must recognise as reasonably to be desired, when he takes the point of view of a larger whole; the former of these objects I call his own ultimate 'good,' and the latter Ultimate Good taken universally; while to the sacrifice of the part to the whole, which is from the point of view of the whole reasonable, I apply the different term 'right' to avoid confusion."

In spite of this disclaimer, I cannot see how Prof. Sidgwick can escape the consequences of his admission in bk. i., chap. 9, that the term "desirable" is the "equivalent" of the term "good". I would especially ask the reader to compare the above-quoted paragraph with the following definition of "desirable":

"What I recognise as 'desirable' for me, I conceive as something which I either do desire (if absent) or should desire if my impulses were in harmony with reason; we may say that I 'ought' to desire it, but—since irrational desires cannot always be dismissed by voluntary effort—we can only say this in the wider sense of 'ought,' &c."

If what I ought to desire is desirable for me and desirable = good, it follows that what is desirable for me is good for me or my good. I respectfully submit that in bk. iii., Prof. Sidgwick virtually withdraws from the position taken up in bk. i. He abandons the definition of "good" adopted in bk. i., upon which much of the force of his argument depends: and it does not very plainly appear what definition is meant to be substituted for it. What part of the connotation of the terms is there in common between the in-

dividual's own ultimate good and Ultimate Good taken universally? If it be answered, 'Both are good because both may be reasonably desired,' we must ask 'By whom?' If that "which he must recognise as reasonably to be desired, when he takes the point of view of a larger whole," means 'that which may reasonably be desired by the larger whole,' the reasonableness of the individual's desiring it and sacrificing other inclinations to it is not made out. If the author means 'that which the individual may reasonably desire,' he has admitted that the good of the whole is desirable for the individual; in which case nothing seems to be gained by refusing to call the pursuit of this good of the whole a good to the individual. If he adopts this latter of the possible explanations of the ambiguous words "may reasonably be desired," he is really bringing back the two "incommensurable goods" to the admission of which he objects under other names. Duty is pronounced desirable, *i.e.*, good, from one point of view: Pleasure, from another. What is this but to admit that both are good, though not always in this life obtainable together? On this view, self-sacrifice does not become less real than on Prof. Sidgwick's: only it will be looked upon as the sacrifice of one's own lower good to one's own higher good, not as a state of consciousness which is wholly A's loss, and good only for B. But before this point of view can be accepted, it must be distinctly admitted that of these "incommensurable" goods one is better or more desirable for the individual than the other, and if for the individual then for any number of individuals. That this is the view of Common Sense seems clear enough. On what other grounds can we either explain or justify its emphatic condemnation of suicide in cases when it is clearly conducive to the happiness of the individual and of all connected with him? The total neglect of this palmary instance of the antagonism of Common Sense to a hedonistic conception of "Ultimate Good," of the true end of human life, is a very serious omission in a writer who appeals in confirmation of his views to a "comprehensive survey of the ordinary judgments of mankind."¹ But I would not for a moment rest my case upon this instance only; since I believe that

¹ Nothing is gained by alleging a distortion of natural moral feeling by theology. For why should it be supposed that a benevolent Creator should have forbidden to man to take the surest road to the end for which He created him? The instinctive repudiation of suicide by the religious consciousness is the more noticeable in the absence of any prohibition of the act in the Jewish or Christian Scriptures.

all love of virtue for its own sake or unselfish devotion to the good of others implies the belief that the virtue or the benevolence is a good to the person who feels it. Once persuade mankind that virtue is fundamentally and essentially *ἀλλότριον ἀγαθόν*, and you will have persuaded them also that it exists *νόμῳ* not *φύσει*, that it is in short a delusion, not a reality : and with that belief in the intrinsic value of goodness will go the theological beliefs which are founded upon it.

And Prof. Sidgwick himself goes very near to admitting that such must be the case, when he comes to speak of the need that Practical Reason feels of obtaining the premiss which is to make it consistent with itself :—

“For if we find an ultimate and fundamental contradiction in our apparent intuitions of what is reasonable in conduct, we seem forced to the conclusion that they were not really intuitions after all, and that the apparently intuitive operation of the Practical Reason is essentially illusory” (p. 504).

Prof. Sidgwick admits that the “Dualism of Practical Reason” cannot be got rid of without the admission of theological postulates, *i.e.*, of the existence of God and Immortality ; just as it must be admitted that the conflict between lower and higher good is on our principles irreconcilable without the admission of such postulates. The question arises, however, whether the Hedonistic view of Ultimate Good really affords any basis for Theology,—whether it does not cut at the root of those spiritual convictions which lie at the basis of the religious consciousness.

The difficulties which the great sum of human and animal suffering presents to the belief in a ‘benevolent Author of Nature’ ought not to be dissembled by those who believe that Reason warrants the ‘venture of faith’ and who hold (with Plato) that *καλὸν τὸ κινδύνευμα*. But, on the hedonistic view of the true end of human life, does not the demand made upon faith become absolutely overwhelming? Can a universe have a rational purpose or constitution in which the end is only pleasure and yet in which reason daily prompts to the sacrifice of pleasure? Surely the assumption of a “harmony between the Universal and the Particular Reason” must be pushed a step further. The faith that *νοὺς ἐστὶ βασιλεὺς ἡμῖν οὐρανοῦ τε καὶ γῆς* never found a more eloquent or a more sober exponent than Prof. Sidgwick. But in what sense can it be said that Reason rules in a universe in which the accomplishment of its true

purpose depends upon a systematic concealment of that purpose? It is the sole τέλος of man to get as much pleasure as possible: yet in order that he may do so, he is throughout his earthly existence, by way of preparation or discipline for the realisation of his true end in another state, to forget that end and live for a totally different one, and—strangest paradox of all—when his life becomes a burden to him and others, he is forbidden by the voice of Reason within him from taking the shortest cut to what Reason pronounces to be the sole ultimate good of himself and of the society in which he lives.

So completely does Prof. Sidgwick reverse in dealing with the ultimate *ground* of morality the Aristotelian maxim *ὅτι χρὴ τὸ τέλος σκοπεῖν*, upon which he lays so much stress in connexion with the *criterion* of morality. We must believe in a future life, Prof. Sidgwick tells us, because we must believe that the constitution of things is rational. And yet, according to Prof. Sidgwick, the universe is so constituted that the man who most completely succeeds in concealing from himself the true end of his being—or haply in never finding it out—will ultimately realise that end most thoroughly. *A priori* no one can deny that the universe may be so constituted; but where is the rationality of such a state of things? If we are to make assumptions, let them be such as will satisfy the logical demand on which they are founded. If we are to assume a rational order in the universe, surely the end prescribed to a man by his Reason must be his highest end. Man is so far a rational being that he is capable of preferring the rational to the pleasant. Surely, then, the reasonableness of such a preference cannot be *dependent* on its ultimately turning out that he has after all preferred the very thing which his love of the reasonable led him to reject. It may be the case that what was rejected had a certain value and would under other circumstances have been good; it may be that it is reasonable to expect the preference of the higher good to be rewarded by the bestowal of the lower also. But surely in a rational universe that which man, when he is most completely rational, desires most cannot be good merely as a means to what he desires less—in other words, it must have an *intrinsic value*. To say that “‘I am to be miserable’ cannot be an inference from ‘I am to be happy,’” is a perfectly fair criticism by Prof. Bain (MIND II. 195) upon a theology which is founded upon a purely Hedonistic conception of the good. If, however, the end of man is goodness or a happiness of which virtue is an essential element, then it is

not unreasonable that he should be required to undergo sufferings which may be necessary conditions of attaining that end for himself and others. While the happiness of others cannot be a rational object of pursuit to the man whose true end is happiness, the good of others may be, and no doubt is, a *part of the end* to a being whose end is something other than happiness conceived of as a mere pleasure. If happiness be the true end, a constitution of things by which the neglect of happiness should be rewarded with happiness and devotion to happiness punished by the loss of it, would be a purely arbitrary, supremely irrational constitution. But if goodness be the end without which the highest happiness is unattainable, if goodness be of the essence of the highest happiness, then it is not inconceivable that the voluntary neglect of a lower good in the pursuit of a higher may be intrinsically necessary to the attainment of that completed state of being, of a life which shall embrace both those concepts of goodness and happiness which Modern Philosophy has been accustomed to separate—the *εὐδαιμονία* of Ancient Philosophy.¹ If Love be indeed the one element of earthly happiness which is to be permanent, then it is intelligible enough that self-sacrifice should be a discipline necessary to fit men for its enjoyment. I will add only one further remark on this supreme problem upon which the course of Prof. Sidgwick's argument has compelled me to touch. When Butler was engaged in writing Moral Philosophy as the champion of the "disinterestedness" of virtue against the Hobbist, when he touched upon theological problems only as accessory to moral, he was satisfied with a position very much resembling Prof. Sidgwick's. Conscience or a "principle of reflection" prescribed certain conduct as rational irrespectively of the interest of the individual; his highest end was duty. The existence of conscience was to Butler the basis of theology, not theology the basis of morality. Yet when he wrote the *Sermons*, he regarded the happiness of the whole as the only conceivable end of the Creator as well as of the altruistic conduct of the individual.² When he came seriously to face the question of the "moral government

¹ Prof. Fowler's pages (*Progressive Morality*, pp. 93-102) on the moral criterion, while containing some wholesome criticism on "perfection of character as a test" form a welcome contribution from a reputed Utilitarian towards the popularisation of a non-hedonistic Utilitarianism, though he still thinks himself bound to assert that the pains of an evil conscience are "immeasurably greater" than any merely physical pain.

² See the second paragraph of *Sermon XII.* and *Sermon XIII.*

of the world," the difficulties of such a position were forced upon his notice. The result of the ten years' thought which intervened between the *Sermons* and the *Analogy* were embodied in those chapters of the latter work on human life as "a state of discipline," which still form the most perfect exposition of that one glimpse of a clue to the problem of the origin of evil which is open to those who refuse to be led by a desire for 'reconciliation' or 'unity' and a philosophical horror of 'dualism' into some form or other of the denial that evil is evil.

The substance then of my contention is that Prof. Sidgwick's attempt to reconcile a hedonistic conception of the "good," and consequently a hedonistic criterion of morality, with an "intuitional" or rational basis or ultimate ground of morality fails. The "dualism" of Practical Reason is not bridged over, and cannot be bridged over without the admission of virtue as an element and the highest element of the "good" which it is right to promote for the whole human race. To sketch even in mere outline the view of the moral criterion to which an examination of Prof. Sidgwick's reasoning seems logically to point, and to meet the objections with which it may very easily be met, would obviously require a separate article if not a separate volume. It may be well, however, briefly to notice Prof. Sidgwick's criticism on that form of Intuitionism which makes character an end-in-itself. In reference to this theory he says (p. 393):—

"Though from a practical point of view I fully recognise the importance of urging that men should aim at an ideal of character, and consider action in its effects on character, I cannot therefore infer that virtues or talents, faculties, habits, or dispositions of any kind, are the constituents of Ultimate Good. Indeed it seems to me that the opposite is implied in the very conception of a faculty or disposition; it can only be defined as a tendency to act or feel in a certain way under certain conditions; and such a tendency is obviously not valuable in itself but for the acts and feelings in which it takes effect, or for the ulterior consequences of these—which consequences, again, cannot be regarded as an Ultimate Good, so long as they are merely conceived as modifications of faculties, dispositions," &c.

This objection does not seem to me to come to much more than an emphatic re-assertion of Prof. Sidgwick's own position: its "obviousness" is not apparent. Character is something more than a bundle of "faculties" and "dispositions". Prof. Sidgwick would hardly maintain that the content of a good man's consciousness is nowise different from that of a sensualist's except at the very moment when he is performing benevolent actions. He has told us himself that the "adoption of an end as paramount" is "to be

classed with volitions". He admits then the possibility of such volitions; and volitions of the two classes here distinguished enter into the whole, or (to avoid cavil) at least into the greater part, of the waking life of every human being. It is on the nature of this volitional part of the man's consciousness that moral character depends: it is the settled bent of the will towards that which is truly or essentially good, and not a mere capacity or potentiality of pleasure-production such as might be supposed to reside in a bottle of old port, which constitutes the 'goodness' or 'virtue' which is regarded as a 'good' or 'end-in-itself' by the school criticised by Prof. Sidgwick. A 'virtue' or 'faculty' is, of course (as Prof. Sidgwick urges), a mere abstraction, but only in the sense in which pleasure is an abstraction also. But for the difficulty which Prof. Sidgwick seems to make of the matter, it would have seemed unnecessary to point out that those who make 'virtue' an end mean by 'virtue' 'virtuous consciousness,' just as those who make 'pleasure' an end mean thereby 'pleasant consciousness'. If any one likes to say that, when a good state of will is pronounced desirable or more desirable than a pleasant state of consciousness, the real object of preference is a specific pleasure invariably accompanying volition of a virtuous kind, it is difficult to see what is gained by such a mode of statement for any one who has once parted company with the hedonistic psychology: but no harm will be done to ethical theory by such a mode of statement so long as it is clearly understood—(1) that the desirability of this specific pleasure does not depend upon any variable susceptibility to it on the part of those for whom it is judged desirable; (2) that the pleasure is not necessarily to those who actually desire it greater in amount or intensity than other pleasures which they forego for the sake of obtaining it.

Prof. Sidgwick's arguments against the possibility of regarding truth, beauty, &c., as ends-in-themselves might be met in much the same way. It does not seem to make much difference whether it is held that there are elements in consciousness more desirable than pleasure or whether we say that some pleasures are 'higher' than others, so long as no attempt is made to re-introduce the hedonistic psychology of Bentham under cover of the latter mode of expression. It is, indeed, an important question whether one kind of consciousness can ever be distinguished from another as higher by any other criterion than its greater conducivity to general good. This question, however, it does not seem

necessary to answer here; inasmuch as the answer to it cannot very materially affect our practical answer to the question, What is the criterion of morality? It will hardly be disputed that what are commonly called the higher pleasures—social, æsthetic, intellectual—are more productive of pleasure to other persons besides those who enjoy them, and that indulgence in them, when regulated by sense of duty, is more favourable to the growth of strictly moral excellence than indulgence in 'lower' pleasures. Hence a greater value, apart from their intensity, will clearly be assigned to them by those who accept virtue as an end-in-itself in estimating the extent to which we ought to promote them for ourselves and others. And here I may remark, with reference to Prof. Sidgwick's objection that our two goods—virtue and happiness—are "incommensurable," that the principle of the superiority of virtue to happiness, while both are good, gives us a criterion of their relative values, and of the relative value of different pleasures when compared with each other. Happiness is not a good at all when essentially conflicting with virtue, *e.g.*, the pleasures of cruelty or lust. It is a good in proportion to the extent to which it is compatible with and conducive to virtue. Hence (though of course there will be practical difficulties in applying this or any other method of Ethics) I do not see that the difficulty is any greater on this view of the moral criterion than on any other—except upon some ascetic principle of the incompatibility of general virtue with general happiness, which is not here maintained and which is assuredly not the view of "Common Sense" in modern Christian communities. I do not undertake to say that, if pleasure *quâ* pleasure were made the object of pursuit, it might not sometimes be attained by a general sacrifice of virtue; since I do not believe that the 'higher' and 'lower' pleasures can really be compared in point of mere intensity: with all who are capable of recognising the 'higher,' the belief that they are morally better more or less affects their judgment as to their preferability. But, except on questions directly or indirectly affecting the lawfulness of taking life, I do not suppose that any one will maintain that general virtue would lead to any diminution of the sum of general happiness. I do not see therefore that our incommensurable goods—except for the individual when he limits his view to his present state of existence—need ever really come into conflict.

It is not pretended that the ethical criterion here pro-

posed will form a 'short and easy way' to the solution of difficult practical questions. The perplexities and uncertainties which beset the calculations of quantitative Hedonism have been sufficiently dwelt upon by Prof. Sidgwick. "It must be admitted," he says, "that the exact cognition of the place of each of our feelings in a scale of desirability, measured positively and negatively from a zero of perfect indifference, is at best an ideal to which we can never tell how closely we approximate." An estimate of the value of different kinds of consciousness measured (1) by their moral goodness or tendency to produce moral goodness, (2) by their pleasurable-ness, is an ideal also—an ever-growing ideal—like that of Hedonism; but one of which, in the present state of its development, it is as easy to get a practical working conception as of an ideal "greatest quantum of happiness," though it may not be so easily crystallised into some cut-and-dried scientific-looking formula. It has been the object of this paper to show that it is an ideal which supplies, as Hedonism does not, a logical basis for that rational justification of the individual life of Duty without which systems of Moral Philosophy must be relegated to the domain of poetry.

III.—SPACE AND TOUCH, I.

By Dr. EDMUND MONTGOMERY.

I.

OUR thought, as it pierces deeper and deeper into the constitution of things, encounters everywhere an intense tumult of powers, a ceaseless unrest of that ultimate something of which our world seems made. The supreme marvel is: How from so much inward rush and commotion there ever can emerge into open view the phenomenal repose and even drift of our extended universe; of the firm and solid earth below and the illimitable heavens around.

On the other hand, we puny creatures, in whose steady perception all this turbulence lies tranquilly mirrored, are ourselves wholly formed and kept intact by a never-flagging vortex of vital change and agitation. How then, on so restlessly shifting a foil, is there established and maintained the seeming consistency of things? How, amidst the incessant turmoil of nothing but minutest particles, inside and outside of us, can there arise the unbroken quiescence and interminable expanse of one and the same all-containing Space?

If our thought is not to collapse in the contemplation of the infinite world without, we have to turn our gaze to the realising and revealing power within us. That inner consciousness, which carries with it the knowledge of all things, is truly a faculty of our own individual nature, insignificant as we may otherwise be. In this view, the living space-perception of which we are cognisant, this all-embracing recipient of external appearances, discloses itself as a conscious manifestation within us, as mental room inherent in our own native being,—whatever the fathomless expanse, holding the universe, may externally prove to be.

And as life, with all its living configurations, is maintained by the vortex of activities which gives shape and movement to our manifest being, it cannot be deemed irrelevant if we venture to inquire whether any of the vital processes making up this our visible individuality are so peculiarly constituted as to be able to serve as a matrix for the singular properties of the far-reaching and motionless receptacle of sensorial impressions—the Space we each of us know.

To carry on successfully an investigation of this kind, and indeed any psychophysical investigation whatever, we have clearly to distinguish between the two totally different aspects of nerve-function—the objective and the subjective; the former consisting in the phenomena perceived by a spectator as a vital process occurring in an organic individual, and found to happen in strict correspondence with certain conscious phenomena simultaneously experienced by the subject thus observed, which latter conscious phenomena make up the subjective aspect of the same nerve-function. It matters not that one and the same individual may alternately assume both attitudes: at one time objectively observing his own vital processes through sensory channels, or thinking them as thus observed; at another time subjectively experiencing mental effects of his specifically stimulated senses, or representing in thought such effects. So far as a person is merely receiving the information which his senses convey to him regarding his own organism, he has no advantage over any other person observing the same organic facts. In this objective attitude the senses of both are stimulated in exactly the same manner, and consequently they both experience the same phenomena.

But, for all this, the two aspects of nerve-function are by no means aspects of one and the same reality or fact of nature. The neural process, which an observer perceives, is—as everyone knows—in no way identical with the corresponding mental occurrence experienced by the observed subject. A sound heard by a certain person is a fact of nature differing in every respect from the corresponding process within his nervous system as possibly perceived by an observer. Both occurrences are alike mental events, but the former, the sounds, are immediate conscious effects of the functioning entity; while the latter, the organic display, turns out to be a roundabout and entirely different effect from the same source, stimulating through foreign media the sensory channels of the observer and awakening in him a perceptive representation of its being and activity.

What we call nerve-centre and molecular nerve-function are therefore very mediate phenomena within the perceptive faculty of a spectator. The concomitant subjective event is a most direct phenomenon within the person in whom the whole process originates. As such it can in no way be shared by any other being, while oneself and many other spectators might possibly perceive the accompanying nerve-process. It is clear that the immediate experience, the sound within the consciousness of the one person, making

up the subjective aspect of the complex phenomenon, cannot possibly stand in any causal relation to the nerve-process existing as perception within the consciousness of the other person or persons, and forming there the objective aspect of the occurrence. My sensation cannot be the effect of his or their perception, nor is it the same fact of nature. My sensation is an event awakened by specific stimulation in my consciousness. His or their concomitant perception of a brain and its molecular function is an entirely different event, awakened in his or their consciousness by quite another specific stimulation. If a causal relation has to be formulated, we shall have to say: The same unknown reality or play of powers, which stimulates the consciousness of spectators to the perception of a brain in definite molecular motion, gives also rise, in the bearer of those powers, to an altogether different set of definite conscious phenomena.

In this way the great puzzle of the relation of sensation to brain-motion, which by thinkers of most schools has been pronounced a fundamental *crux* of knowledge, receives its easy and obvious scientific solution. By the light thus afforded we may hope to gain a more correct and profound insight into psychophysical problems. Of course, the real powers, stimulating and stimulated, which awaken during their action the conscious phenomena, subjective and objective, remain here, as in every other instance, extra-mental, and therefore only inferred by means of their peculiar conscious effects.

No scientific philosopher, to whatever school of thinkers he may belong, will now-a-days assert that conscious phenomena within an organic individual take place without the concurrence of corresponding vital processes in definite parts of his nerve-system. The special question, then, before us is: What kind of vital activities would a spectator on close examination be able to detect while we are experiencing our well-known Space-consciousness?

In this inquiry we shall unhesitatingly assume the fully developed faculty of space-perception. Whoever has watched a chick, just hatched, pecking with unerring precision minute grains from the ground, or has seen a new-born calf skip lightly about, can hardly feel inclined to join very eagerly in the discussion between Nativists and Empirists. However much experience may assist in maturing in us human beings the innate vital tendency to space-perception, it is clear that the full-fledged faculty, in all essential respects, is an inborn gift of many living creatures. One organism finds itself launched into its sphere of action more ready-made

than another, and no deep-going divergence of opinion concerning innate faculties need arise on that score. Of course, the less directly adapted to fundamental wants of the organism the specific contents of space happen to be, the more experience will be required to understand their significance. The meaning of its mother's udder is more immediately recognised by the calf, than the meaning of a rebus by us.

The true reason why investigators still insist on accentuating so positively the distinction between Nativism and Empirism is to be found in a psychological prejudice. It is believed by Empirists, somewhat vaguely, that if they can only prove a "psychical synthesis" to have been experimentally established, they have therewith virtually overthrown the old doctrine of innate ideas. They think that what can be shown to be made up of experiential data cannot be transcendently imported. It is, however, evident that Nativists of the evolutionary school may very well admit a completed faculty of space-perception without the least reference to the innate ideas of former philosophies. Their *a priori* capacities rest on organically established harmonies, not on self-efficient powers derived ready-made from some supernatural source.

It would seem that sufficient insight is here still wanting on all sides. As far as I am aware, no investigator of psychophysical phenomena has yet made quite clear to himself that "psychical synthesis," as such, is a mere imaginary fiction, with no more possibility of actual existence than fire-works in a vacuum. Veritable synthesis has in every instance to be first organically established, before it can at all manifest itself as a mental phenomenon. We cannot therefore correctly speak of a psychical genesis of space-perception, either by dint of transcendental spontaneity or out of experiential data; but must seek to understand the confluence of organic faculties and vital events that render the appearance of such a thoroughly synthetic product possible. In the sphere of subjective experience, within the actuality of our "mental presence," we find only accomplished results. (See MIND XXVI.) By a systematic scrutiny of the functioning organism, we may hope to discover the vital conditions that lead to these results.

Every psychophysical inquiry centres at last in the recognition of neural synthesis, predetermined by an organised collocation of peripherally specialised and centrally concurring parts; which parts, graduated as they are in molecular complexity, manifest, in their functional activity, the structurally accomplished synthesis as a subjectively felt specific energy of their own. (See MIND XVII.)

II.

IN what does our most elementary space-discrimination consist—in the perception of surface-extension, or in the intuition of determinate distance?

My attention is riveted on some train of thought. I am scarcely at all conscious of my body. I do not know whereabout in space my limbs are resting. Suddenly a spark from the fire flies up, and alights on my hand. Instantly I am made aware of the exact spot in space where the burn occurs. My hand itself I hardly feel as yet. I could not at once tell which part of it is affected. Nevertheless, I am most positively conscious of the precise position of the hurt. It is to my left, a little in front of me, about a foot and a half below my head. I can point without looking, and unfailingly, to the very place.

When, to my great surprise and the rapid overthrow of pre-conceived notions, this vivid incident once actually occurred to me, I saw without hesitation that, if ever we could come to understand the intimate working of this one simple fact of mental awakening, we should have made out the foundation of space-consciousness.

First of all, it was the pain, and nothing outside the organism, that occupied so distinct a position in space. Then it became clear that this peculiar position could not have been ascertained by means of any kind of local sign attached to the particular part of skin affected; for it is well known that an acute pain effaces all tactile distinctions. And, furthermore, there was no kind of movement, no muscular function at play during the exquisitely distinct spatial discrimination. Only an isolated dot of pain occupying, just there, a rigorously fixed position in the wide expanse of potential space-consciousness.

A strange experience this when judged by the standard of our present theories:—a positive spatial perception consisting apparently of nothing but a primitive mental fact; a fact not even qualitatively characterised with regard to stimulation, nor quantitatively attuned to any outside influence. And in this bare intrinsic impression neither a specific tactile sensation, nor any kind of muscular feeling, could at all have entered as constituent elements.

It seems hardly credible that the discrimination of distance and position should turn out to be a mere elementary sensation, equivalent in itself to a subjective perception, affording the material for a complete and even a complex judgment: exactly there, thus far from my centre of apperception, to

its left, in front of it and below, I feel a pain. Yet a few simple considerations will render it evident that this is indeed the interpretation that has to be given of the above experience.

To begin: I am quite aware that, in calling a perception "subjective" in the sense here implied, I am uttering a paradox. It is the characteristic of a perception, in contradistinction to other kinds of feeling, to constitute a self-rounded experience, signifying an outside existent. Our perceptions, awakened as they are by means of specific stimulation, represent to us the stimulating objects or powers; and their qualitative contents, as well as the gradation of their intensity, vary in keeping with the compelling influences. We take them invariably to belong, not to our inner world of self-realisation, but to the world of otherness outside of us.

These clear and thoroughgoing distinctions are, however, all subverted by our fundamental observation: a dot of pain felt, or rather perceived, at a definite outside spot in space. Here we have nothing external to our own organism, nothing distinguishable from our own selves. The sensorial awakening is not representative of anything belonging to a foreign entity. The whole phenomenon is encompassed by the limits of our isolated being. Yet it is a positive perception we are conscious of, occupying a precise and compulsory spatial position relative to our apperceptive focus. Thus the discrimination of something definite at a distance, something specifically localised in space, must be a faculty altogether organised in the sphere of our own circumscribed individuality, and not immediately implying any reference to existences outside of us.

The containing space, in which such perceptive localisations take place, is unmistakably an original, general, indefinite, but comprehensive *feeling* of our own, within whose scope skin-impressions become localised sensations, or, in other words, whose energising through special organic channels gives rise to definite spatial specifications. How this occurs, and how it comes to pass that the reach of such an individual feeling is found to extend so far beyond the limits of the personality in which it is inherent, these are cardinal problems growing out of our fundamental consideration.

Among Experientialists it has been generally assumed, with various combinations of the same data, that the acquired knowledge of the position and motion of the parts of our body, together with the gradually established localisation of specific tactile experiences on the optically or otherwise ex-

perientially realised surface of our skin, conspire in some way to produce, by dint of present feelings and associated memories, our tactile space-perception. But no tactile *peculiarity*, no local sign connected with the part of skin through which any spatial position is actually ascertained, can possibly form any essential constituent of our space-perception; for the same portion of skin, say the tip of a finger, can give us information concerning any attainable position in space whatever. No data, on which spatial discrimination is based, can be imparted by any specific tactile quality. The tactile peculiarity of a touching-point (of a finger-tip, for instance) must be void of any spatial value, since the sensation of touch conveyed by identical tactile elements may be felt as localised in any region of space whatever—right or left, above or below, in front or behind. Indeed, tactile sensations indiscriminately, from the softest touch to the hardest pressure merging into pain, and from a pleasant warmth to an excruciating burn, are all alike subjectively felt as localised with great precision at the very same objective spot where they are found to be actually stimulated. This coincidence, as regards spatial position, of the subjective feeling with the objectively ascertainable site of its origin is a most wonderful fact of nature, which will have to be contemplated more carefully further on. At present it suffices to understand that no qualitative or local skin-discrimination whatever enters into our original space-consciousness.

In the next place, it is not difficult to show that, contrary to accepted opinions, and leaving us still more deprived of experiential data, neither actual nor remembered muscular feelings are at all involved in original space-realisation.

We believers in sensorial impressions and their combinations have been so used, since the time of Berkeley, to look upon space-consciousness as somehow directly connected with, if not actually engendered by, conscious operations of the muscular sense, that it will require very valid arguments to make us relinquish so plausible and serviceable a synthetic material. Yet sensorial logic proves, on close examination, just as little competent to account for synthetic results within the mental presence as the logic of thought. A theory of knowledge cannot be safely based either on an exclusively psychological or on an exclusively logical foundation or on any combination of both. And this, for the simple reason that the combination of elementary data and the process which gives them their relative position and value within

the mental presence are formative operations unconsciously or organically accomplished.

Imagine yourself lying on a soft couch, your hand resting quietly alongside your body. You are indulging in a day-dream, and have forgotten all about the actual position of your limbs, and also about the muscular movements that have placed them there. A gentle prick applied by some other person to one of your fingers makes you at once aware—without the slightest exertion or movement on your part—of the exact spot in space where the prick is received. How can the associating recollection or revived feeling of any muscular movement, in whatever way previously experienced, ever assist in this instantaneous discrimination of the definite position of a perfectly quiescent sensation? We have in our whole mental range absolutely no more immediate experience.

Now you move your hand away, and place it at rest over your head. Again you forget all about its position and the feelings that accompanied its transference from the one place to the other. A second prick on the very same portion of skin, and you feel the hurt at an entirely different part of space. What help from any kind of outgoing or ingoing motor sensations could you possibly have derived during the spatial discrimination of this transposed affection of the same portion of skin? The prick in both instances was of the same kind, and the sensory spot that received it was the same. No muscles were at all exerted during these spatial experiences. In both positions hand and arm were completely at rest. Nevertheless the sensation occupied two totally distinct and widely separate localities in space. Who will maintain that the prick revived the muscular feelings with which the hand was placed where it is, rendering conscious again the sweep it made to get from the one position to the other? It is quite manifest that nothing of the kind actually occurs. But if it did occur, it could only yield consciousness of surface-extension, of the successive positions occupied by the hand in moving from the one place to the other. What we really experience is nothing related to this. It is each time the direct position of the prick in immediate spatial connexion with our apperceptive focus. Moreover, even surface-extension is realised without assistance of motor exertions or recollections. You press a cold iron rod, six inches long, on any part of your skin, and you feel surface-extension without any possible help from motor sensations.

Particular spatial experiences are energised specifications of our potential space-consciousness. All movement sub-

jectively felt or objectively perceived is thus constituted. Our general space-feeling is manifestly a restful, motionless phenomenon, and cannot be rightly thought of as composed of a vast number of motor experiences either psychologically blended in memory, or physiologically re-excited during the actual localisation of sensations. We have to explain the feeling or perception of movement as grounded on space-consciousness, not space-consciousness as resulting from the feeling or perception of movement. Proper feelings of muscular motion, even if anyone had ever really experienced such, do certainly not yield us any data for a psychological construction of space. And we may safely add that muscular movements, as such, do not enter as constituent elements in our space-realisation.

The two psychological factors that have hitherto been held by most Experientialists to compose space-perception have now been disposed of. It has been shown that no specific tactile and no specific motor sensation can form part of our fundamental space-consciousness. The general potential reach of our spatial feeling radiates in all directions from our focus of apperception, receiving its conscious actuation from the more or less intense sensory stimuli that are always at play; receiving it probably in a vague, sub-conscious manner even from the mere vital processes in the sensory organs, irrespective of special stimulation. An intense energising of the focus of apperception from some stimulated part, with non-inhibition or with voluntary yielding to its awakened consciousness, constitutes attention to the sensorial affection. The sensorial affections themselves form the so-called content of space. And in the primitive and unitary act of sensorial discrimination the precise position of the sundry sensations is immediately known. Perceptual objects are altogether made up of specific sensorial positions.

III.

Sensorial impressions originating at normally immovable parts of our body are subjectively located where the terminal points of the sensory nerves objectively rest. If I artificially dislocate some part of normally immovable skin, and then prick it, I feel the prick, not where it is now being applied, but at the spot in space where it would be situated had the skin been left in its normal position.

The experiment can be easily made, and is very striking. On breast, back, arms, legs, anywhere in fact where stationary skin can be displaced, let the shifted portion of skin be

held in an abnormal position, and a steady impression made on it with something pointed. Keeping your eyes closed, try now rapidly, or even quite deliberately, to touch the affected spot with the tip of your finger. You will, in your first attempts, hit the place where the affected spot would naturally rest; a place perhaps more than an inch distant from where the impression is really made. When the skin is not artificially displaced you, on the other hand, infallibly hit the very spot affected.

This feeling of impressions at quite another place from where they are actually stimulated, is surely a very remarkable experience, proving how completely subjective localisation is due to specific energies centrally organised. The congruity of the subjective and the objective space-realizations, so astonishingly accurate under normal conditions, fails when the organised relations have been changed by artificial transposition. The subjectively felt position and the objectively stimulated spot no longer cover each other. The impression is felt not where the sensory point is actually found to lie, but where it normally ought to lie. This shows that the peripheral neural process, no matter where it takes place, is so organised as to stimulate the centres with which it is connected to a specifically pre-arranged function, which function becomes conscious to us as a definitely settled position of the experienced affection—a position coinciding through pre-established harmony only with the normal site of the affected spot.

The information conveyed in this experience is highly important. It implies that the impressions, propagated to the nerve-centres through the sensory nerves of unmoving skin, possess centrally a specific and inalienable spatial value in relation to each other, a value not influenced by any shifting of their objective position. And this leads to the conclusion that every position in space is qualitatively distinguished from every other position. Space is, therefore, not—as often supposed—a continuum made up of, or decomposable into an infinite number of quantitatively equal parts. It is, on the contrary, a specific whole of which each fragment rigorously forms a definite and different integrant part, and not merely a constituent element, itself spatially indifferent. Vital space is, in fact, a qualitatively graduated expanse, not, as conceptually assumed, a quantitatively measurable magnitude only. This is evident, even to immediate perception. For why, we may ask with Kant, does the left glove not fit the right hand? Indeed, what other meaning but a qualitative one can be attributed to the dis-

tinctions of right and left, above and below, in front and behind? The periphery of our perceivable spatial sphere we find to be illimitable. But starting from our apperceptive focus, every position within this sphere is specifically fixed in relation to every other position. Our construction of an imaginary objective space, though it abstracts from the centralising limitations imposed by our individual focus of apperception, cannot rid itself of the solidarity and mutual dependence of spatial positions. This becomes obvious in the predetermined necessity of geometrical relations, and in the reference of ascertained positions to some fixed point and its rectangular co-ordinates. It becomes obvious also in the impossibility of establishing physics as a science of forces objectively disposed in space, apart from subjective modes of apperception.

By looking upon objectified space as if each of its positions were simultaneously and most directly realisable by an apperceptive and visual focus, we form constructive images of objective shapes and objective space-relations as if viewed all at once, in one and the same apperceptive moment, and in the most advantageous situations that our own organs of space-realisation are able to occupy. This imaginary construction is justified by our movable relation to the constraining outside influences. But each act of genuine space-perception is nevertheless truly perspective, and thus qualitatively defined in relation to our body and its sensory surface.

The organised spatial value of tactile impressions had already been made clear in the fact discovered by Prof. Croom Robertson and recorded in *MIND* I., 145. Holding a rounded body between your crossed fingers (a knitting needle will be found very appropriate), you do not only feel the body double, as Aristotle already knew, but the sensorial impression, emanating from the finger-tip, naturally lower in vertical position, which has been artificially placed uppermost in objective space, is felt "as coming in lower down" in subjective space. The sensations arising in the two finger-tips have spatial values definitely fixed in relation to each other, which values are not changeable through artificial transposition.

But here, in connexion with voluntary movable parts, we reach the complication in organic space-derivation, which may well be considered one of the greatest puzzles of psychophysical science. You turn your hand, with its artificially crossed fingers, round its axis, so that the finger-tip, which was first uppermost in objective space, comes now to occupy

the downward position, and—strange to say, when introspectively regarded—its sensorial impression comes in, this time, higher up in subjective space than the sensorial feeling from the other finger-tip, now occupying the uppermost position in objective space. The cause of this reversal of the subjectively felt positions lies evidently in the changed posture of the entire hand in objective space. The sensorial feelings emanating from the tips of the crossed fingers, so unchangeably related to each other with regard to their respective spatial values, are nevertheless somehow strictly dependent in their combined specifications within subjective space on the position of the hand, and therewith of the entire finger in objective space. When the body of the finger occupies the uppermost position in objective space, we feel the sensorial impression uppermost, though its tip may have been artificially placed beneath the tip of another finger. When the finger itself occupies the downward position, then we feel the sensorial impression at its tip lower down than that at the tip of another finger artificially placed beneath it.

These peculiar spatial experiences, connected as they are with the objective posture of normally movable parts of our body, modify essentially the spatial experiences connected with the normally unmoving parts of our body. We have seen that, if we displace a portion of naturally unmoving skin, the sensorial impression received from it is localised where the affected spot normally rests, and not where the stimulus has now been applied. But let one of your fingers, without any muscular exertion on your part, be artificially moved by an outsider, who forcibly shifts it to some other place, and you will feel a sensorial impression on it exactly at the spot where the stimulus is now being applied, and not at the spot where the finger rested before being shifted.

Here the localising specific energies of the nerve-centres are manifestly not organised in relation to permanently settled positions of definite portions of skin. On the contrary, impressions on the skin of movable organs are felt at whatever place in objective space the affected skin happens to be; the subjective feeling of position shifting under these conditions in exact correspondence to the objective position of the movable organ.

We have found reasons to conclude that the localising energy of subjective space-realisation is inherent in the nerve-centres, and not in peripheral structures. Consequently we shall have to seek for the cause of the shifting of this localisation as occurring in connexion with movable

organs, not in peripheral arrangements, but in central activities.

A movable organ, the entire arm for instance, has to be looked upon as a member physiologically partly independent; in fact, as an appendage inserted into our main body, and there centrally unified, its fingers forming so many more subordinate intercalary appendages. This view is corroborated by the teachings of organic development. The sensorial impressions originating in the normally movable sensory surface of such an appendage, one may look upon as inserted into the sensorium of the main body; its spatial positions, as inserted into the common and all-embracing space of individual consciousness.

The amplification of reach accruing to subjective space-realisation by such an arrangement is manifest. All objective positions attainable by the sensory surface of such appendages or limbs are subjectively realised, on stimulation, as corresponding distances and positions. Thus the sweep of our individual space-perception is enlarged to a very considerable extent. How completely the positions subjectively and objectively connected with the appendages have in the course of development become harmonised with the subjective and objective positions connected with our main body, may be recognised in the manifold spatial congruities which disclose themselves on our touching one part of our body with any other part. I place the tip of my finger on my chest. The subjectively felt position stimulated in the tip of my finger through contact and the subjectively felt position stimulated in the touched spot on my chest coincide accurately, though the one position is realised through the sensory nerves of the arm, the other through the distant sensory nerves of the chest. One and the same identical spatial position is energised through two widely separate and totally different neural channels. This exquisite sensorial adaptation and concurrence is paralleled by the corresponding perceptual adaptation and concurrence constituting the objective spatial coincidence of the points here touching each other. A spectator, quite unconscious of the spatial positions subjectively felt by me, perceives that the tip of my finger is touching a certain spot on my chest, that the objective points in contact are occupying one and the same identical position in objective space. It is a manifold coincidence which becomes here manifest; a coincidence of one subjective position with another, a coincidence of one objective position with another, and a coincidence of both subjective positions with both objective positions.

Considering that movable organs are particularly adapted for the establishment of complex connexions with the outside world, and that it is their normal function to establish such connexions, the conclusion will be admissible that the sensorial information conveyed by such organs has been moulded on outside influences. It was Prof. Vierordt who, on the strength of many accurate experiments, first formulated the law that those parts of our sensorial surface which are most mobile possess also the most accurate tactile discrimination of discrete positions; that, in fact, such space-discrimination may be regarded as a function of the mobility of the feeling part. It is through the finger-tips, the lips and the tip of the tongue that in direct contact we mostly discriminate the position and spatial extension of outside things. It is in keeping with the adaptation of mobile organs to extraneous uses that we find their stimulated feelings of position—in whatever posture they themselves may happen to be—in accurate agreement with the objective position of the stimulating influence. With the same sensory spot I touch at one time something quite near by, at another time something a yard off. In both instances my subjective feeling of position coincides exactly with the objective position of the thing felt. It is this faculty of mobile organs, enabling one and the same sensory point, merely by a change of its own posture in objective space, to realise positions all round,—it is this marvellous sway of efficiency, rendering the sensorial capacity of such points all but ubiquitous, that has to be steadily kept in view, in order that some insight may be gained into the hitherto unravelled intricacies of space-perception.

You lay your hand on a horizontal surface, and you feel a complex of horizontal positions. You lay it on a vertical surface, and you feel vertical positions. So throughout all the directions of space. In every instance, it is the same sensory surface you apply, yet the subjectively felt positions vary accurately with the objective positions of the feeling organ. When with your finger you trace a horizontal line, it is horizontal positions you feel; when a vertical line, vertical positions; and, again, when you happen to trace the third dimension, theoretically so mysterious, it is distance or depth you distinctly realise as subjective feeling.

It is evident that the sensorial impressions originating at the very same sensory points in all these different situations can receive only through some central process their entirely different spatial values—values found, moreover, to vary and to coincide accurately with the objective posture of the ex-

ploring organs. The central substance, which in the different positions of the exploring organs reacts so differently on the same sensory stimuli, must necessarily be each time in a different condition. In what way and through what means has it been modified? This is clearly a biological and not a psychological question. We shall revert to it further on.

IV.

In common external experience, a sensation comes to form part of a percept when, together with other actual or revived sensations, it gives a realisation of the influences which an outside existent is able to bring directly to bear upon us. The germ of such externalising and objectifying perception is, however, already contained in our most fundamental experience of distance and position. A feeling, arising altogether in our own individuality irrespective of outside powers, is accurately located; which means that it is externalised and spatially objectified in relation to our focus of apperception. The objectively ascertainable or organic cause of this phenomenon is to be sought in that collocation of the nerve-system through which all peripheral nerve-processes are brought to a focus. But such a structural disposition does not really explain why within the realising mental presence definite distances and positions should sensorially and perceptually reveal themselves. Indeed, in contemplating this mental experience, we become aware what a very indirect and opaque illumination is afforded by the objective aspect. Stretch your arm out, and a prick on your hand will be felt a long way off. Hold your hand close to your head, and a prick on the same spot will be felt near by. The same length of the same nerve has been traversed by the stimulation in both instances. Yet one of the functions or outcomes of this neural activity, the felt distance, is found as such specifically and enormously to vary. Moreover, you do not feel anything along the course of your nerve. You feel the sensorial impression only at what turns out to be the terminal points of the nerves on the sensory surface. The space intervening between these points and the apperceptive focus appears to your immediate perception quite empty, which means completely void of feeling. We experience a sensation a yard or a few inches off, and nothing whatever between.

Here we have evidently before us the display of specific energies residing within central nerve-structures, an innate spatial reference of centrally experienced sensations to where

the stimulus has been applied. We feel the complete spatial sensation as a specific central energy localised where the objective aspect teaches us that it has, or ought to have, been awakened. This conjecture derives much confirmation from the fact that the effect of the stimulation of a sensory nerve anywhere along its course is always felt only at its terminal points; indeed, the stimulated effect in the sensory tract of an amputated limb may be accurately felt where it normally ought to be, though nothing is now there but insensible and "invulnerable air". Here no objective aspect corresponds to the subjective feeling of distance and position. It is all a creation of central nerve-powers. For the understanding of the fact of felt distance, especially where, as in sight, such distance reaches beyond the sensory surface, it is most essential to bear in mind that we have here before us the play of central energies, but energies nevertheless quite obviously organised in strict relation to outside influences.

The next step in the perceptual development or composition of sensation may be traced in the experience of linear extension. Let two impressions be made simultaneously on two remote parts of our skin, and we find ourselves capable of feeling at one and the same time the distance and position of both sensorial impressions. It is true our attention tends to fix the apperceptive focus now only on one and now only on the other impression. But, as in the simultaneous realisation of distant and unfocussed points in visual experience, we possess the power of becoming conscious of two or more tactile impressions in one and the same act of apperception. All this is accomplished subjectively. Yet, as stated before, incipient perception is here already at work in the externalising and objectifying of the sensorial impressions.

A further advance in the way of perception consists in the voluntary direction of the focus of apperception. We are able, at will, to let our concentrated attention wander from one impression to the other, and thus to connect two distant points of perceptually unblended sensation with an imaginary line. This imaginary line is established by representing it as filled with an unbroken continuity of sensation such as would be actually realised if we were to apply a continuous line of stimulation to an even length of skin. In our present state of organisation it is, however, highly probable that the voluntary direction of our focus of apperception is so intimately connected with the movements which direct the focus of vision that the line traced by the focus of apperception is actually filled up by specific ocular sensations, repre-

sentative of tactile sensations. The perception is completed when the line of sensation is made up of specific tactile impressions, such as are normally stimulated by definite outside powers. It is entirely detached as an objective thing when the apperceptive sweep is reinforced by the accompanying voluntary movement of peripheral organs, themselves objectively realisable, such as hands and eyes.

What we become immediately conscious of in space-perception remains, under all conditions, nothing but felt positions; nothing but individual space-consciousness actualised by sensation. We cannot rightly say that such sensorial experience occupies or fills space. By force of its own nature it is itself the realisation of space—soft or hard, dark or coloured space. Perceptual things are not contained in space; they constitute themselves qualitatively specified parts of space. Subjective spatial sensations, when specifically stimulated, continue to be spatial all the same, but become, moreover, normally representative of outside existents. This cold and hard line pressing on the palm of my hand is primarily only a line of sensation of definite length and position, realised in relation to my apperceptive focus. All this is in itself nothing but a sensorially actualised spatial experience. In addition to this, through the specific tactile qualities of such a line of sensation, I am made aware that it is a foreign object, probably the edge of some metallic thing that is thus affecting me. This additional recognition, however, does not alter the fact that the spatial experience is wholly constituted by sensation. The congruity subsisting between such an immediately felt spatial actualisation and the objectively measurable length of the pressing object, is a coincidence between facts of nature that are in no way logically related to each other, but naturally and intimately connected together as stimulating influence and stimulated effect by means of an organically pre-established correspondence.

The perception of surface-extension is realised by similar steps. Its relation to the sensory surface has been accurately studied by Weber and many other investigators. Its foundation consists likewise in the simultaneous and coalescing apperception of the stimulated effect of a number of adjoining and peculiarly disposed sensory points all energised together. Another person presses something on the surface of my hand. Of this action, however, I know immediately nothing. Now, suddenly I experience the sensation of a square, or rather my present complex of sensorial impressions energises my potential space-feeling in the shape of

what we call a square. This experience may be immediate and purely subjective, unsharable as such by any other person, and also not necessarily and directly representative of any outside object. A burn or a pain, obliterating all qualitative characteristics attributable to outside things, may be in itself thus shaped.

While, however, under such conditions we are feeling in the form of a square, an observer may perceive a congruent square either formed by the stimulated surface of our skin or by the surface of the thing stimulating it. He cannot perceive the square within our consciousness, nor has this our mode of consciousness the slightest influence on his perception of a square. Yet the extra-mental existents, the skin and its specific stimulus, which by their action incite our own mental image, produce also, though by more complicated means, his congruent mental image. He may perceive the objective and congruent square either by touch or by sight, and we, when we assume the objective attitude, when we use our tactile and visual apparatus, may do the same, thus corroborating and fortifying objectively our immediate sensorial experience.

The realisation of a sphere or cube, or any other form of three dimensions, is accomplished by a further complication in the apperceptive blending of felt positions. Only here the actual sensorial experience constituting circumscribed form can, in most instances, not be simultaneously energised, but has to be complemented by an indirectly reinstating process, which mentally discloses itself as remembrance, imagination, and representation. This constructive filling-up takes place in touch as well as in sight, only with different combinations of the constituents entering into the composition of cubic forms. Distance or depth is, however, at least as direct a sensorial experience as length or breadth. Hold your hand out straight before you, and you will feel immediately a touch on your finger as more distant than a touch on your arm. Look at the floor of your room, and you are visually aware of distance in the same immediate way. The visual experience is naturally adapted to the horizontal plane at our feet, and has to be explained in relation to it.

In all instances of space-discrimination or space-construction, immediately felt positions form the ground-work, but it is due to pre-established congruity of the external influences with our internal experiences that such subjectively felt positions are found accurately to coincide with their objective realisation.

(To be continued.)

IV.—DISCUSSION.

EXPERIMENTAL PSYCHOLOGY.¹

By Professor G. STANLEY HALL.

Experimental psychology properly begins in the physiology of the excised nerve and the striated or voluntary muscle. The action of the latter is the only exponent we have, except the wave of negative electrical variation, of what takes place during the transmission of a psychic impulse in the fibre, which Henle thinks even more important for it than the nerve-cell itself. For a long time after Galvani's discovery of the marvellous reanimation of these tissues by contact with two dissimilar metals, scientific men no less sagacious than Humboldt, who recorded two volumes of now worthless observations, thought themselves near a demonstration of vital force. The problems that thus arose really became accessible only after the invention of the multiplier and the double astatic needle, which were first combined in their study by Nobilis in 1826. Since then Du Bois-Reymond and Matteucci, whose work the former strangely underrates, and many younger investigators, have explored many effects of several stimuli under varied conditions, which no one interested in the study of voluntary movement can safely ignore. The facts are too complex and the theories at present too unsettled and conflicting for exposition here. Whether it be right or wrong, it is the hypothesis that the nerve-muscle preparation is only a mechanism with no vital principle in it, and could be made to give (although results have, it must be confessed, been often less exact than was hoped for) perfectly constant curves and currents if all its conditions could be controlled, that has prompted nearly all work in this field.

When nerve-cells occur between the stimulus and the muscle, we have what is called reflex action, from the curious conception of Astruc, who first used the term, that impressions going inward along the hollow nerve-tubes struck the smooth, inferior surface of the *corpus callosum*, and were reflected outward along motor tubes with equal angles of incidence and reflection. In its modern sense this term now designates one of the most fundamental categories of physiological psychology; and its needlessly laborious demonstration by Bell, because studied on the cranial instead of the spinal nerves, in 1821, and by Magendie independently later, marks the most important epoch in the history of neurology. It

¹ Extract from Introductory Lecture on "The New Psychology," delivered at the Johns Hopkins University, Baltimore, last October; here reprinted from full report of the Lecture in the *Andover Review*.—ED.

was made just at a time when anatomists were disheartened by the apparent lawlessness of the nervous system, and were turning back to Haller and even Galen, and aroused at once—especially when introduced into Germany by Johannes Müller in the next decade—the greatest interest and activity. Even neural anatomy, which had made little progress since the great brain-dissectors of the seventeenth century, was resumed in epoch-making works like those of Van Deen and Stilling on the spinal cord, and physiology began to go beyond the microscope in Türck's determination of the peripheral distribution of each pair of sensory spinal nerves. There were speculators who objected that to give a solid structural basis to the distinction between sensation and motion, instead of admitting that all fibres mediated both, was to restrict the freedom of the soul, and to dualise, if not to phrenologise, it into a posterior and an anterior soul (rather than a right and a left brain-soul, functioning alternately, as Dr. Wigan had said). The researches on inhibition begun by Setschenow, so suggestive for the study of the negative field of attention, if not of hypnotism; the light shed on the problem of automatism *versus* a psychic rudiment by the observations of Marshall Hall and of Pflüger; the studies of Ludwig's school; Wundt's explanation of his observations, which, however conjectural, has the great merit of unifying many partial hypotheses of ultimate nervous action; the ingenious experiments of Goltz, and scores of other special studies of various aspects of reflex action—have cleared up and made more tangible many important psychic concepts. Unscientific as it would be to assume with Spencer, who writes without knowledge of these or of German researches generally, that a "reflex arc" and its function is the unit out of which brain and mind are compounded, still it is easy to conceive the former as a complex reflex centre of many mediations between the senses and the muscles, and human faculty in general as measured by the strength, duration, freedom, accuracy and many-sidedness of our reactions on the various stimuli which reach us.

Consciousness itself was first subjected to methods of exact experiment by E. H. Weber, who published the results of nearly twenty years of the most painstaking observations on the senses of touch and pressure in a monograph of almost ideally perfect form, written and rewritten in German and Latin, more than fifty years ago, and who wrought out the first form of the psychophysical law, the exact application of which is now reduced to very narrow limits. The study especially of the retina—genetically a part of the brain and in a sense the key to its mysteries and an index of its morbid states, itself now so accessible to observation, and its functions to experiment—has enabled us to penetrate into the problems of visual form and colour, and in connexion with touch (under the long tuition of which vision is educated in our infancy, till it finally anticipates, abridges and reduces its pro-

cesses to a rapid algebra of symbols) has brought us into far closer quarters with the nature and laws of motion, reality and space itself, than Locke, Berkeley, Hume or Kant could penetrate. Not only physiological optics, but acoustics, is now almost a science by itself. By their psychic chemistry, elements of mind long thought simple and indecomposable have been resolved into ulterior components. This analysis Helmholtz, a few years ago, characterised as the most important scientific achievement of recent times, which have seen many philosophic themes till lately thought accessible only to speculation enter the laboratory, to be greatly cleared up by restatements and often to be solved. The difficulties of experimenting on smell and taste, dizziness and the muscle-sense, are being slowly overcome, and new sensations, such as local signs and innervation-feelings—no more accessible to direct experience than atoms—are postulated. All who have absorbed themselves in these studies have seen the logical impossibility of every purely materialistic theory of knowledge.

Another line of research which has greatly aided these must be mentioned. The rapidity with which neural processes traversed the nerves was thought by physiologists of the last century to be near that of light or of electricity. In 1844 Johannes Müller declared that their rate could never be measured, and Du Bois-Reymond published his great work on the electrical properties of nerves and muscles in 1849 with no mention of the subject; yet the very next year this velocity was measured, with much accuracy, by Helmholtz. Now the personal equation (or the shortest possible time intervening between, *e.g.*, the prick of an electric shock on the surface of the first finger of one hand, and the pressure of a key by the other, occupying perhaps fifteen one-hundredths of a single second) is resolved into several elements, enabling us to measure with great chronoscopic accuracy the time, and by inference the complexity and familiarity, of many simpler psychic processes, and to explore many kinds of memory, association and volition under the action of attention, toxic agents, fatigue, practice, age, &c. When we add to this the rhythms, beginning perhaps with a fine intermittency in all nervous action, breaking vocal utterance into articulation, cadence and rhyme, and widening into the larger periodicities now just beginning to attract attention in health and disease, it is plain at least that the old treatment of time as a simple form or rubric of the sensory was perhaps still more superficial than that of space, and that those who still persist in speaking of acts of human thought as instantaneous, or even independent of time, may be asked to demonstrate at least one such act or thought. Although thus far chiefly applied to the study of elements fundamental to consciousness rather than to its more complex processes, these methods are now rapidly multiplying and extending their scope, and even apart from all results have a quickening educational influence on all who seriously work them as a unique field of applied logic.

The brain itself, the most complex and unknown of all the bodily organs, is now studied with as much specialisation of both field and method as modern astronomy. If in one patient the right arm is lost or paralysed, and after death certain bundles of fibres and certain cortical areas are found decayed, the inference that they are connected is strong. It is still stronger if conversely in other patients brain-lesion, by wound or tumour, causes loss of function in the arm; and stronger still, if these fibres acquire their medullary sheath before others around them in the embryo, and can be traced from the arm to the same part of the cortex. By the consilience of these methods, supplemented by physiological experiment on animals, and in part by patiently tracing normal fibres with the microscope, approximate localisations of brain-centres for the movements of the legs and, especially, the arms now seem established. General centres for speech and, perhaps, vision, though subject to individual variation and not sharply defined, now seem also made out. Munk's distinction between central and penumbral spheres; Meynert's bold designation of the arched fibres that join convolutions as association-fibres; a mild form of Goltz's theory of functional regeneration; the ascription of either commissural, reproductive or balancing functions to the cerebellum, and of motor mediation mainly to the striate and sensory to the thalamic body seem, if less certain and resting on very different kinds and degrees of evidence, now very probable. So far, the temporal regions of the brain seem most and the frontal region least crowded with functions liable to decay, and sure to show functional impairment from slight lesions. The range of individual variation, and how far we may infer from experiments on animals to man, is by no means made out. Experiment and disease show that there are psycho-neural processes localised in fibres that can be approximately counted—as those of the optic nerve and the cervical cord—and dependent on the integrity of specific cell-groups, which no one who knows the facts, now easily shown, could think due *only* to an imponderable principle mediating freely between parts without necessitating connexion of tissue. But if all cells and fibres involved in each act of the mind or emotional state might be conceived to be numbered and weighed, and all the circulatory, thermal, chemical and electrical changes exactly formulated, the sense of utter incommensurability between these objective relations and the closer, more intimate consciousness of such acts and states would be sufficient as a corrective of materialism and as a positive justification of an idealistic view of the world.

The study of symptoms and abnormal states of every type and degree has also lately received new impulses. Painstaking monographs are now multiplying on such subjects as the periodicities of the insane; detailed explorations of the mental states of individual lunatics, with the history of each illusion from its inception; or extended comparative studies of single deliriums, as of

persecutions or of greatness; the writing or drawing of the insane; the complex psycho-physics of epilepsy, with all its finer shadings up into perfect health; the detailed elaboration of manifold types of aphasia; or again the special psychology of each crime-class; biographies and family histories of great criminals; the study of the blind, deaf, pauper types and other defectives, and of dreams. Nothing is just now more needed or more promising here than a comparison of carefully taken psychic observations of cases of acute mania with the cortical discolouration which commonly attends it. The successful student of these states requires the rare combination of an insinuating, sympathetic temper, of a perhaps itself infinitesimally neurotic type, with power to trace all morbid psychic phenomena in others to and identify them with fainter experiences of his own, along with the most objective discriminating sagacity. The infection of these states is so subtle in imaginative minds and the *katharsis* so long and serious that they should be undertaken by the general student of psychology very rarely or not at all. Yet all who would teach or profoundly study the laws of mind must now know something of its disease-forms, both for their high practical and their pedagogic value; and all our public institutions where these unfortunate classes are gathered should offer every facility and encouragement to competent observers. Even a course of reading in psychiatric literature is now sure to transfuse and reanimate several quite atrophied departments of mental science.

Experimental psychology, in fine, seeks a more exact expression for a more limited field of the philosophy of mind (while widening its sphere to include the physical, emotional and volitional as well as the intellectual nature of man), to which its fundamental and, in the future, conditional relation is not all unlike that of physical geography to history. Baconian, or, more historically, Roger-Baconian, methods, after reconstructing thought in other fields, are at last being applied to the study of those qualities and powers by which man differs from animals, and which in medical study and practice have been of late far too much ignored, and by metaphysics far too exclusively considered. The time was when the doctor, who can see human nature in its weaknesses and extremes no less transparently from his standpoint than the clergyman from his, studied to control the mind and heart and imagination of his patient, instead of leaving this to quacks, as well as to drug his body; when, before the power to take the *whole* man into account had been lost in easier micrologic medical specialties, he really deemed nothing human alien from himself, and often merited the Hippocratic beatitude, "Godlike is the doctor who is also a philosopher". This part of psychology has been termed medical and physiological by Lotze and Wundt respectively, who have tried to compile its results, and surely merits the high place it is now winning in the best medical as well as philosophical courses of study, and unquestionably has a great future before it.

FEELINGS OF RELATION.

By RICHARD HODGSON.

PROF. WILLIAM JAMES, in his suggestive article "On some Omissions of Introspective Psychology" (MIND XXXIII.), has eloquently urged the claims of "feelings of relation". A full appreciation of those claims will, I venture to think, lead Prof. James one step further—to the recognition of different *levels* or *planes* of consciousness, and thence to the recognition of qualitative differences between ultimate relational feelings, according as they concern primary feelings on the same plane or primary feelings on different planes. But I propose now to consider briefly the views of several writers on those "feelings of relation" which Prof. James has emphasised. As advocates of one view we may take Condillac and the late Alfred Barratt; as advocates of an opposed view—that which I understand Prof. James to hold—we may take Dr. Brown and Mr. Spencer.

Perception, in Barratt's view (*Physical Ethics*, especially Appendix 3) is the compound state of consciousness produced by the excitation of two sensations simultaneously. In its first stage he calls the compound state a *mixed sensation*. The mixture of two different simple sensations produces a *sensation of difference*. The combination of two sensations of difference produces a *perception of resemblance*. Comparing this with Mr. Spencer's view, we find that what Mr. Spencer calls a relational feeling, or a feeling of relation, *viz.*, the transitional feeling between the two sensations, Barratt calls a compound state consisting of the simultaneous excitation of the two sensations. Both are agreed as to the presence of this third state, but differ as to the analysis of its content. Or rather, Mr. Spencer finds that it transcends analysis; Barratt thinks he can analyse it. Barratt speaks of the *idea of resemblance* as being "formed by the coalescence of two portions of the same sensation, namely, of that following upon the second change which neutralises the first, and of the residue of that which preceded the first change, and which, owing to the retentiveness of tissue, remains still impressed upon the consciousness". Mr. Spencer writes as follows (*Prin. of Psych.*, ii. 284):—

"Accurately speaking, therefore, a relation of likeness consists of two relations of unlikeness which neutralise each other. It is a change from some relatively-enduring state A to another state *x* (which represents the feeling we have while passing from one of the like things to the other), and a change from this transitory state *x* to a second relatively-enduring state A: which second state A would be indistinguishable from the first state were it not divided from it by the state *x*, and which merges into such first state when the state *x* disappears, from the approximation of the two like stimuli in space or time."

But another point must be noted, *viz.*, that Mr. Spencer de-

clares the primordial relation of unlikeness to consist of two states only; and it might be urged that in this case it is difficult to see what constitutes the relation of unlikeness, unless it is the simultaneous excitation of the two states. The transitory state described in the preceding passage is expressly asserted to be absent. But if a relation of unlikeness is established in such instances as Mr. Spencer enumerates, and if that relation is a *change* in consciousness, it can be nothing, for analysis in reflection, but a transient state between the two states spoken of, which transient state must either have a generic quality and quantity like the relational feeling Mr. Spencer elsewhere (*Prin. of Psych.*, i. 224) describes, or must consist in a brief union of the supposed original states. The former alternative represents Mr. Spencer's view, but I think his lettering might with advantage be altered—if for the first primary feeling we take A^1 , for the second B, and let x represent the change, the relational feeling of unlikeness between them; then in illustrating the relation of likeness, take A^2 for the third feeling similar to the first, and x for the relation of unlikeness between B and A^2 . This lettering is suggested by a passage in the 1st edition of the *Psychology*, p. 316, which corresponds with the passage already quoted, and runs thus:—

“Accurately speaking, therefore, a relation of likeness consists of two relations of unlikeness which neutralise each other. It is a change from some state A to another state B (which represents the feeling we have while passing from one of the like things to the other), and a change from the state B to a second state A: which second state A would be indistinguishable from the first state were it not divided from it by the state B, and which merges into such first state when the state B disappears, from the approximation of the two like stimuli in space or time.”

The changes thus referred to are transient states—are, in truth, *the relations*; and I venture, therefore, to think it advisable to symbolise them by small letters, retaining the large letters for the primary feelings. Otherwise the reader may be misled into supposing “the transitory state,” in the extract first quoted, which appears under a small-letter symbol x , to be a relational feeling instead of being, as it is there, a primary feeling. To return, then, to my lettering, let us ask whether the relation of likeness is a relation between x and \bar{x} , or a relation between A^2 and a^1 (where a^1 symbolises the residue of A^1). Barratt's answer seems to be that it is *both*. In considering his position it will be well to adopt his terminology.

According to Barratt, I have a simple sensation A. Then comes a change to sensation B, during which change A and B exist simultaneously. The compound state of consciousness thus excited he calls a *sensation of difference*. Then comes another change, which ends the sensation B (for the first change introduced sensation B, and the second change is said to neutralise the first), and again introduces the sensation A (for the coalescence is between “two portions of the same sensation”). But

there still remains a residue from the first portion of sensation A, and with this residue the second portion of sensation A coalesces. The mixed state formed by the coalescence of the second portion of sensation A with the residue of the first portion of sensation A is Barratt's *idea of resemblance*. He apparently calls this mixed state also a *sensation of resemblance*, but prefers calling it a *perception of resemblance*. He further describes this perception of resemblance as formed by the combination of *two sensations of difference*. What are these two sensations? The first of them is the simultaneous excitation of A and B, in which *consists* the change from sensation A to sensation B. The second of them would seem to be the simultaneous excitation of B and A, in which consists the change from sensation B to sensation A. This second change is said to neutralise the first change.

There are now present the second sensation A, the residue of first sensation A, and also the residue of B; since if the first sensation A can leave a residue, much more can the sequent B. Call the residues *a* and *b*. Now the perception of resemblance is formed by the coalescence of A and *a*, and coalescence means simultaneous excitement (*Physical Ethics*, p. 334, *note*). But it is also formed by the combination of A + B and B + A, if we take these expressions to represent the two sensations of difference, as Barratt would apparently take them. The series of sensations ought to be from Barratt's standpoint—

$$\begin{aligned} &A \\ &A + B \\ &B + a \\ &B + A + a \\ &A + b + a. \end{aligned}$$

But here we find *four* sensations of difference, if the changes in consciousness are strictly regarded and no favouritism shown to the residues Barratt requires. If we are partial and admit his erroneous plea, we get a series as follows :—

$$\begin{aligned} &A \\ &A + B \\ &B \\ &B + A \\ &A + a \end{aligned}$$

where the order is, in Barratt's terminology,

- Simple sensation (A).
- Mixed sensation of difference.
- Simple sensation (B).
- Mixed sensation of difference.
- Mixed sensation of resemblance.

It seems to me hardly legitimate to speak of this final mixed sensation as formed by the combination of the preceding sensations of difference, and still less legitimate to speak of it *both* as

formed by that combination *and* as formed by the coalescence (or simultaneous excitement) of a present sensation and the residue of a preceding one. It is one thing to say that there cannot be a sensation (perception) of resemblance without there having been two sensations of difference. It is another thing to say that the sensation of resemblance is formed by the combination of those two sensations of difference; which two sensations may obviously be *conditions*, without being the *constitution*, of the sensation of resemblance.

Again, how can there be a simultaneous excitement of a present sensation and the residue of a preceding one when this residue consists in a weaker action of the same nerve-centres as are stimulated in the case of the sensation itself? This is a doctrine which Barratt accepts: "Idea is thus exactly the same physical and conscious state as its corresponding sensation, but of a less intensity" (p. 334, *note*). The only meaning, then, we can give to his "simultaneous excitement" here must be that the present sensation is more vivid than it otherwise would have been, and the perception of resemblance is reduced to a sensation of greater vividness. I think Barratt would be unwilling to adopt this position, and, moreover, he adds that the perception of resemblance "arises only from that particular form of change which we call reversal, of which one term is equal and opposite to the other". Barratt's expressions, in short, concerning the origin of the relation in question cannot be made to agree; but it appears that the dominant view in his mind was analogous to Mr. Spencer's, and that his *perception of resemblance* involved the reversal or neutralisation of one sensation of difference by another, just as Mr. Spencer's relation of likeness involves the neutralisation of one relation of unlikeness by another—of, in the lettering above, x by \bar{x} . But how does this doctrine comport with the view that all knowledge is classification of like to like—is assimilation of feelings to feelings and relations to relations?

When Mr. Spencer writes that "a relation of likeness consists of two relations of unlikeness which neutralise each another," we must not suppose the relation of likeness to be constituted by the mere feeling of neutralisation any more than we must suppose it to be constituted by the mere presence of the two relations of unlikeness. The description of these is the description, from an analytic reflective point of view, of the mental processes by which the relation of likeness is disclosed (*Prin. of Psych.*, ii. 283). When we assert that any two primary feelings are alike in kind, "we express an intuition of which we can say nothing further than that we have it. Though, as will by and by be seen, the intuition may be otherwise expressed, it cannot be decomposed" (*Ib.*, p. 280). "That two changes in consciousness are of like kind is a fact of which we can give no account further than that we perceive it to be so. When two transitions in consciousness produce in us two like feelings, we know nothing more than that we have the like

feelings. It is true, as will be shown in a subsequent chapter, that it is possible to say specifically what we mean by asserting the likeness of these feelings. But beyond this it is impossible to go" (*ib.*). When, therefore, Mr. Spencer speaks of the primordial relation of unlikeness as consisting of two states only, he means that when two states such as he describes are given a relation of unlikeness is established; that when two relations of unlikeness such as he describes are given, a relation of likeness is established. The principle here involved is too frequently forgotten in dealing with mental evolution. Another precisely parallel instance may be given. The relation of co-existence is a relation said to be disclosed by experience; it is a relation between two particular relations of sequence; it is neither the one relation of sequence nor the other nor the mere both; but when these two particular relations of sequence are established, the relation of co-existence is established. To ask *why*, is to ask why relation should be the form of thought; further interpretation cannot be given: we have come to the unknowable (see Brown, *Phil. of Human Mind*, Lect. xxxiii., p. 211, and x., p. 61). I can analyse my experience, and I may determine the *order* of the relations established in my consciousness; I may show that certain relations have arisen for me only after the establishment of certain other relations. To trace the series of relations throughout, from the most complex (*i.e.*, as requiring the previous establishment of other relations) to the most simple, is to exhibit in one of its aspects the process of evolution. But in no case are the earlier stages to be considered as *producing* the later ones, any more than the walls of a house are to be considered as producing the roof.

We have now to notice that Barratt's view concerning the nature of feelings of relation resembles the doctrine of "transformed sensations" offered by Condillac in the last century. Barratt holds that "there is nothing in the relation beyond its two members, the change is merely a short simultaneous consciousness of the two sensations" (*Physical Ethics*, p. 47). Condillac, in *Traité des Sensations*, writes, pp. 16-17—referring to two sensations, one which we have had, and the other which we have—"Nous les apercevons à la fois toutes deux. . . . Apercevoir ou sentir ces deux sensations, c'est la même chose. . . . La mémoire n'est donc que la sensation transformée"; p. 50—"Le jugement, la réflexion, les désirs, les passions, etc., ne sont que la sensation même qui se transforme différemment"; p. 121—"La sensation renferme toutes les facultés de l'âme". Condillac's doctrine has been ably criticised by that keen but sadly neglected thinker, Dr. Brown, in his *Philosophy of the Human Mind*, Lect. xxxiii. He urges that Condillac's great error "consists in supposing that, when he has shown the circumstance from which any effect *results*, he has shown this result to be essentially the *same* with the circumstance which produced

it," and displays great analytical acumen in exposing the fallacy underlying Condillac's position. Brown's argument is fatal to Barratt's view, as much as to that system, which he otherwise describes as supposing "our comparison to be the ideas compared, and nothing more, as if these had flowed together into one".

"Because two affections of mind are followed by a third, he considers this third to be the two former co-existing, or as he terms it, transformed." "They do not involve or constitute, they merely give occasion to this third state, and give occasion to it, merely in consequence of the peculiar susceptibilities of the mind itself as formed, by its divine author, to be affected in this particular manner, after being affected in those different manners which constitute the separate perceptions, as sensation itself, the primary feeling, was made to depend on some previous organic affection produced by an external object. It is not, therefore, as being susceptible of mere sensation, but as being susceptible of more than mere sensation, that the mind is able to compare its sensations with each other."

Finally, I observe that more than one mistake is made by Prof. James in the article I have mentioned. He appears to think that Mr. Spencer was the first to use the phrase "feeling of relation": he appears to think also that Mr. Spencer has not "seen very deeply into the doctrine". But this doctrine was put forward at least as early as Brown, who uses the very phrase to which Prof. James refers. It is true that Brown's doctrine is much less evolved than Mr. Spencer's, but it is substantially the same in foundation. Reference may be made for various expressions of it to Lectures x., xxxiii., xli., xlv., xlix., l., li. He speaks continually of the "feelings of relation. The praise, then, which Prof. James bestows upon Mr. Spencer is undeserved. The blame which he bestows upon Mr. Spencer is equally undeserved.

"Mr. Spencer," he says, "tries to reduce the number of relations among things to a minimum; and in other passages says they are limited to likeness and unlikeness, co-existence in space and sequence in time. Whether this be true of *real* relations, does not here concern us. But it is certainly false to say that our feelings of relation are of only these four kinds."

Now, I am surprised to learn that Mr. Spencer has reduced the number of "*real* relations" to no less than four, and I am also surprised to learn that he asserts "our feelings of relation" to be "of only these four kinds"—as I understand Prof. James to mean the expression. Prof. James cannot have attended to the rest of the chapter in the *Psychology* where § 65, to which he makes reference, occurs, or even to the note appended to that section itself, which runs thus:—

"It will perhaps be objected that some relations, as those between things which are distant in space or in time, occupy distinguishable portions of consciousness. These, however, are not the simple relations between adjacent feelings which we are here dealing with. They are relations that bridge over great numbers of intervening feelings and relations; and come into existence only by quick transitions through these intervening states, ending in the consolidation of them."

It is rather Prof. James who has not "seen very deeply into the doctrine". The last paragraph of § 73 should justify my statement. See also Part iv. ('Special Analysis') throughout, on the varieties of our numerous feelings of relation. Need I do more than ask what is suggested, say, by Mr. Spencer's description of the perception of softness as "the establishment in consciousness of a relation of simultaneity between three series of sensations—a series of increasing sensations of pressure; a series of increasing sensations of tension; and a series of sensations of motion"? Do we find here suggested that Mr. Spencer regards "our feelings of relation" as of only four kinds? Or is it suggested by the statement that "the term Perception is applied to mental states infinitely varied, and even widely different in their natures";—or that "a perception may vary indefinitely in complexity, in degree of directness and in degree of continuity";—or that "in all their various kinds and compounds, what we call relations can be to us nothing more than the modes in which we are affected by bringing together sensations or remembered sensations or both: hence what we have next to do is, first to resolve the special kinds of relations into more general kinds, ending with the primordial kinds; and then to ascertain what are the ultimate phenomena of consciousness which these primordial kinds express"?

Analysis brings us evidently down to the single primordial relation which is a *change* in consciousness, one aspect of which is the relation of unlikeness and the other aspect a relation of sequence.

MR. F. H. BRADLEY ON FACT AND INFERENCE.

By B. BOSANQUET.

I thought that if there was one doctrine that European philosophy had fairly made its own, it was that of the inferential character of fact. According to Mr. Bradley (*Principles of Logic* p. 74), "Events past and future, and all things not perceived, exist *for us* only as ideal constructions connected, by an inference through identity of quality, with the real that appears in present perception". Here we have a clear, though in one point it seems to me an inadequate, statement of the doctrine which I understand to be the basis of modern European thought, and to be in a peculiar sense the inheritance of the English experiential school. Whatever other opinions an English writer may hold, he has seldom from the time of Locke failed to lay stress on the relativity of knowledge, and on the inaccessibility of fact to immediate cognition. Mill in his "Psychological Theories of the External World and of Mind" has pushed this view into extremes. I was therefore unprepared to find, in so advanced a writer as Mr. Bradley, the artificial or manufactured character of fact con-

stantly treated as in need of establishment by controversy, and sometimes ignored.

The point of inadequacy to which I referred lies in the exception indicated by the phrase "all things not perceived". I should have preferred, "all things whether perceived or not". The attitude which Mr. Bradley betrays here, and adopts elsewhere, towards this which I understand to be his own doctrine, is the curious subject to which I wish in the first place to draw attention. I can only explain such an attitude on one hypothesis: *viz.*, that, while formally adopted for the sake of irony and in order to reduce his opponents, whose genuine attitude it is, to an absurdity, it is really the expression of an influence which has qualified Mr. Bradley's conceptions more seriously than he appears to apprehend. To go thoroughly into the question would require an elaborate review of Mr. Bradley's *Principles of Logic*. I shall only try to state my meaning shortly, and illustrate it by touching on a few salient points.

I understand the limitation "things not perceived," in the passage quoted above, to imply strongly that the "real that appears in present perception" has not the character of an ideal construction. The passage of course might be interpreted otherwise, but I believe the intention to be what I have indicated. For, as one of many instances, I may compare p. 365 where "a fact merely got by simple perception" appears to be equivalent to "a fact of sense" and opposed to a "judgment". It is in accordance with the point of view so revealed, that Mr. Bradley's entire account of the Judgment and of Inference in their relation to Fact is given from a standpoint only befitting "the unfortunate holder to sensuous reality" (p. 492). Thus, as we arrive at any definite knowledge, we are torn away from reality; and I at least am unable to decide whether the bitter words ("mutilation," "garbled extract," "not the facts") which are hurled at scientific truth, are ascribed with savage irony to the supposed believer in sense-presentation as the only fact, or come at times sincerely from the author's heart. My difficulty may arise solely from my own dulness; but it is not impossible that others may share it.

I need not collect the indications of a quasi-sceptical mood which are scattered throughout the treatise. They are hardly matter of argument. It is enough to refer emphatically to pp. 532-3, which certainly might be taken to show that the author has modelled his ultimate idea of the relation between knowledge and reality on that of the above-mentioned "unfortunate". How else could he contrast the "sensuous curtain" with the "unearthly ballet of bloodless categories" and the "movement of our intellect's content" with the "senses' abundance," as if we should ever propose to isolate one of these elements, and worship it as reality? Is the substantial and coherent structure of the world, as seen by the soul that looks through the eye, to pass

for no more than a "sensuous curtain"? After the masterly account of Causation about fifty pages before, one is startled at words which appear to suggest the conceivability that a category, say causation, might divest itself of reality, and go about like a ghost on its own account. I may add that this account of causation as "implying a connexion which cannot be presented" does not bear out the censure of p. 195 on the conception of cause as the sum of the conditions. Condition is condition, as cause is cause, for us by ideal connexion; condition is distinguishable from cause exactly as much as cause is distinguishable from effect, and for the same reasons. If we forbid ideal isolation, abstraction from relations which are presupposed, we are back again where the Eristics were in Plato's time, and will say nothing because we cannot say all. If it is not a fact that arsenic is poison, I really do not know what a fact is, and am tempted to say that I do not care. But if it is a fact, then a condition is a fact. Of course the reality which we treat as a condition is seen in a certain ideal light; is, if we like to say so, known as the antecedent of a hypothetical judgment. But so, as Mr. Bradley trenchantly demonstrates on p. 486, must the reality be seen which is to count as a cause. And so, I should add, must every reality be, of which in any context whatever anything is to be said or known. These considerations would to my mind have an important bearing on Mr. Bradley's treatment of the Method of Difference. He seems to demand that to prove causation we should succeed in actually isolating the suspected cause; but actual isolation is impossible; there is no such thing. To attempt it is simply to bring about a new and unknown combination. All isolation is *ideal*, i.e., for knowledge; a mere distinction between relevant and irrelevant; and it is the making of this distinction that the Method of Difference expresses.

I will now point out some awkwardnesses which seem to result from the assumption of a standpoint which is too paradoxical to be carried through; and which yet affects the author's general views with a sort of yearning after a solid $\pi\omicron\upsilon\delta\sigma\tau\acute{\omega}$. I mean the assumption that fact cannot be given in universal or perfectly definite propositions: "The moment you have reduced your particular fact to a perfectly definite set of elements, existing in relations which are accurately known, then you have left the fact behind you" (p. 335). Starting from such a conception as this, it is obvious that as we get towards the world of science we get away from the facts; and it is not surprising that as we approach truth we recede from reality.

In presence of such a conception it was surely vain to haggle about the categorical judgment. If nothing which thought has defined can be a fact, we may say at once that no judgment can be categorical.

The "analytic judgment of sense" can at best be distin-

guished from the "synthetic judgment of sense" only in the most fugitive way; and for the present purpose the distinction could never hope to stand. The discussion whether it may be taken as categorical seems to me wholly inconsistent with Mr. Bradley's assumed point of view.

I find a strong special case of this difficulty in the temporary concession that there may be a collective judgment, a form of the singular judgment, which may be taken to be categorical in virtue of referring to "a real collection of actual cases," apparently an equivalent phrase to "the existing cases" (pp. 82-3). But existing cases which are not perceived are surely as a matter of knowledge in exactly the same position with past or future cases: they are known in the same way, and are subjects of the same kind of predication. The cases existing in present time afford no tenable limit in such a discussion as this. They are less than we can construct by inference, and more than we can perceive directly. If we go to construction at all, we cannot omit past and future; and I do not believe the natural meaning of a judgment ever does so, except when time enters into the content.

Mr. Bradley has indeed disclaimed the fiction of the "atomic now" (pp. 50-3), and has propounded an interesting view of the connexion between reality and "presence"; partly, I think, founded on a doctrine of Lotze's.¹ I accept this view, but remark on it (*a*) that it allows and requires you to charge your perception of presented reality to an indefinite extent with matter belonging to past and future (your present is, in fact, the "logical" present, as illustrated by the old explanation of Virgil's "*Cratera antiquum, quem dat Sidonia Dido*"—"the gift of Dido"); and (*b*) even when you have so charged it, you have not any reality till you have all, and that you never have. Between the "atomic now" and the whole of knowledge I see no resting place; the logical present is capable of taking in all.²

Still more serious than the admission of a collective judgment is the false impression conveyed by arguing that the hypothetical judgment cannot be reduced to a categorical one. Naturally, if there is no categorical judgment to reduce it to! Why not tell us at once that the essential purpose of such a reduction, so far from being denied, is the main contention of the treatise; that the categorical and hypothetical *forms* signify no essential difference, and that in those characters which are of value for knowledge (omitting all reference to the ill-used terms 'fact' and 'reality') the ordinary universal categorical, and the hypothetical judgment, are one and the same? Instead of reducing the hypothetical to the categorical, Mr. Bradley reduces the cate-

¹ *Metaphysik*, § 150.

² Mr. Bradley may in fact be held to be pointing this out in his interpretation of the Law of Identity, p. 133.

gorical to the hypothetical. I can see, apart from his assumed standpoint, no importance whatever in the change.

But I venture to suspect that in his mind this reversal has an import, and a fictitious one. Mr. Bradley is especially keen in pointing out that the hypothetical and disjunctive judgments cannot possibly predicate fact. Now, if we are to stand by the author's starting-point, I should not much care whether they do or not; for in the sense thus assumed, I should not say that 'There is an omnibus' expressed a fact. But in the case of the explicit hypothetical and explicit disjunctive I gather that there is a further and special ground. "What is affirmed (in hypothetical judgment) is not the actual existing behaviour of the real, but a latent quality of its disposition" (p. 87). And so with the disjunctive "'A is B or C'; but this mode of speech cannot possibly answer to real fact. No real fact can be 'either—or'. It is both or one, and between the two there is nothing actual" (p. 122). Here we are criticising the judgment from a more advanced basis. We are not merely saying that it defines by omission and selection within the sensuous environment, and therefore being partial does not represent fact. We are saying, I suppose, that when it alleges a connexion between elements one or all of which may not now exist, or an alternative between elements which cannot both exist at the same time in the relation suggested, then a judgment cannot represent fact. What conception of fact have we got here? Is it = what exists in the vanishing "now"?¹ This is more than sensuous perception, but less, I should imagine, than the "ultimate non-phenomenal fact" (p. 180); less also, surely, than the reality which = presentation by contact, of p. 503; a fact which is real in this latter sense most certainly can be 'either—or,' for it may change within the presentation, and the *is* includes the whole presentation.

The conception of fact according to which the hypothetical and disjunctive judgments are incapable of stating fact, is the same according to which it was alleged that the collective judgments as dealing with 'existing cases,' did state fact. I will try to illustrate my objection to it in this way. Mr. Bradley ingeniously elicits the categorical elements which underlie, as he thinks, the hypothetical and the disjunctive judgments respectively. These elements are qualities which form the basis of the suppositions

¹ Sigwart, *Logik*, p. 253, speaking of such judgments as "Der Mensch kann wachen und schlafen," says that if "auf einen und denselben beliebigen Zeitpunkt bezogen," they become disjunctive, "Der Mensch schläft oder wacht". But this equivalence is enough to show that the judgment remains universal in point of time; it is only the *exclusion* which infers to a single moment in time. It is not that you fix a point of time and infer the judgment to that (or if you do so, rhetorically, you say so; e.g., 'Now, as always, your character is either improving or deteriorating'); you judge universally that at any and every point of time a certain feature *viz.*, the exclusion, holds good.

expressed in these two types of judgment. Why are they more "categorical" than the consequents of the "supposals"? I can only imagine it to be because they are conceived as permanent, and therefore as capable of being predicated as in present time, which the consequents of the supposals are not. And then there is no obstacle to taking the present existence of the subject (present in time) as implied in the judgment. But this was an indication of being categorical in the case of the collective judgment, and is so too in the case of the disjunctive (p. 122). I suppose that the subject¹ of the quality implied is to be taken as existing in present time in the case of the hypothetical also.

I have said that I do not see how the assertion of the present existence of the subject makes a judgment categorical. I also do not think that any judgments imply the existence of their subjects except those which say something that depends on time-relations. Unless, therefore, we are to identify categorical judgments with those common statements of passing events to which time makes a difference, I do not think that implying the existence of the subject in present time is here or there in the question of categorical character.

And surely, if the predication of a supposal as to future time is to make a judgment other than categorical, no judgment which asserts a quality will stand. We never confine a quality to the present in asserting it; we hardly ever inquire if its condition, *e.g.*, the light which is essential to colour, exists at the moment we predicate. Before I say, 'My wall paper is green,' I do not stop to think whether my room is just now dark. My present assertion is in fact based on the hypothetical judgment that if it is light, green colour is visible on the wall. The latter is the datum, the former the inference. As to the disjunctive judgment, I can see why a thing should not be both at once of two reciprocally exclusive predicates, but why it should not be 'either—or,' especially if we take the present as having duration (for the *exclusion* must still be tested by simultaneity, so we shall not get 'both') I cannot understand. It appears to me that most precisely defined attributes are abbreviated disjunctions; they have disjunctions for their content. To reduce disjunctions, or hypothetical judgments, to something present and continuous, may have a metaphysical justification in some law of continuity; but the facts which they represent do not bear this on their face, and I gather that Mr. Bradley does not hold continuity to be essential to identity. 'Gold is yellow' means 'If

¹ Pp. 87-8. But this subject need not be the subject which appears in the judgment at all. The ground of the hypothetical is asserted of reality. But this seems to leave the whole specific assertion to be made by the hypothetical judgment. In other words, is not the phrase "Reality is such that—&c." implied in the act of judging at all?

gold is exposed to white light before a seeing eye it will look yellow'. Mr. Bradley may say, we conclude to some permanent surface quality, and this is real yellow. And this, no doubt, may be a justifiable inference; but if continuity is not essential to identity (p. 269), I do not know that it is a necessary one. And it is not the same thing as what we naturally mean and intend, namely, to predicate of gold, in terms to which time is indifferent, that whenever it is seen in the light it looks yellow. We employ the logical present, and I do not see that the possible discontinuity of the manifestation of colour at all impairs our right to do so, if the extension of our judgment beyond the vanishing moment of the present does not, as we are agreed that it does not. The only thing that would impair our right to a categorical present in such a case, would be the fact that time made a difference to the content; and in this case I presume that it does not. I will take a stronger instance: 'That tree is 30 feet high'. The meaning of this judgment is chiefly made up of hypotheticals and disjunctives. It is improbable that the tree has been measured with a yard-measure, and if it had, the judgment of its height would be borrowed from the past. But more probably we mean that if it were measured with a yard-measure it would be found 30 feet high; or more strictly, we mean what we say—in that case, a somewhat bold *inference*—that the tree has a height of 30 feet, discarding the idea of whatever means we may have taken to arrive at a knowledge of the height. But further: the judgment of size, like all such judgments, undoubtedly represents a disjunction; so far from being surprised when the same object covers a small place in the field of vision at a distance, and a larger one when near, we should think our perception contradictory if it were not so. The judgment of size includes a disjunction of the appearances which the object of the alleged size will present at different distances. If this were not so, our judgment of size would alter, or if too well established to alter, would seem contradicted by perception, as we altered our distance from the object. We include, in stating the size of an object, the fact that it may subtend very various visual angles, can subtend only one at a time, and must subtend that which its distance and its size taken together require. And if a disjunction is not categorical, I do not see how such a predication as this can be categorical.

You may indeed have a hypothetical judgment which has for its main object to illustrate a quality. I take an extreme case from Allman's *Polyzoa*, p. 14: "If these setæ (the setæ of *Bowerbankia*) were reduced in number to four, &c., &c., they would at once be converted into the ribs of *Paludicella*". I do not think there is any intention here of designating an actual course of evolution; the sentence merely indicates a construction which the reader is to make for himself, in order to accentuate certain points of analogy in the structure of the *Polyzoa* in ques-

tion. In this case it happens that a quality, or rather group of relations condensed into attributes, is conceived of as permanent, and then a certain mode of looking at it is prescribed in order to bring out its features most sharply. This is an accidental and to a certain extent abusive employment of the hypothetical judgment, which we often indicate by saying, 'Try and imagine,'—'If of course it is impossible—,' and the like. It is far more natural that the hypothesis should explicitly allege the pure case we have in our knowledge, and that any reference of this to a permanent quality should be an extraneous and metaphysical conclusion. I may add that the non-existence of Bowerbankia at the present moment would, as Mr Bradley claims, make no difference to the truth of the hypothetical judgment, nor, as I should say, to any judgment, even if categorical or disjunctive in form, into the content of which time does not enter; but its non-existence in the field of knowledge, or its incompatibility with the elements which the judgment connects with it, would turn the judgment into nonsense or make it false. Mr Bradley admits (p. 219)¹ that abstraction and impossibility are not the same thing; therefore we can take hypotheticals as expressing fact, without accepting the consequents of impossibilities.² And I subjoin, all thought is hypothetical *quâ* abstract, even sensuous perception. Thus I see no sort of use in trying to get at fact as something non-hypothetical, or in trying to find a class of judgments which imply the existence of their subjects in the moment of predication, with the exception of those in the content of which time plays an essential part: and the required class, if found, would still *not be* categorical, if a universal judgment is not categorical.

These considerations lead me to doubt whether Mr Bradley's censure on Mill's account of "conditional propositions" is justified. The substance of the censure is "*either* categorical, or conditioned by a supposition". I deny the exclusiveness of the disjunction, and cannot understand how, in the face of his own analysis of the ordinary categorical judgment, Mr Bradley can maintain it. In the most *outré* sense he even admits no categorical judgment to exist at all. I put out of sight the judgments with non-phenomenal subjects, as Mr. Bradley does not insist on these. I should have thought all judgment passed by degrees into this class.

Surely the English realist of Mill's type has the better here. He takes the explicit statement of a connexion of content for a definite assertion, and not less but more definite because the condition, which all assertion involves, is here made visible and explicit. It is surely beside the mark to ask whether Mill's "inferribility" means the fact of having been inferred, or the possibility of being inferred. In saying that the one judgment

¹ Contrast p. 190. ² Contrast p. 186.

is inferrible from the other, he implies, as a formal condition, the forum before which fact is fact; *i.e.*, a rational mind *quâ* rational. True, this is formally a condition, just as it is a formal condition of 'Buttercups are yellow' that there should be light to see them by, and living eyes to look at them, and of every statement that the world should exist and continue, or, one is almost driven to say, that the statement should be true; I mean, that the world should go on as it does, at least so far as not to interfere with the statement. But these formal conditions surely cannot invalidate the claim of the statements concerned to rank as facts.

I turn to another side of the same question. I, as I expect to find all fact to bear the marks of inference, should be surprised if inference were not an inseparable element in all judgment. Mr Bradley's treatment of judgment in relation to inference is most instructive, but leaves, as I read him, one important point open, which I connect again with his assumed conception of fact as the datum of sense. "All judgment," he says, on p. 406, "is not inference, if *mere* judgment claims a position as inference". And in the same place he speaks of "the arbitrary synthesis of a suggestion with reality". I gather from p. 405 that mere judgment, or an arbitrary synthesis, may be owing to such a source as the testimony received from others, or as the prominent suggestions of our own senses. Now, I do not understand what is meant by a "mere" judgment, or "arbitrary" synthesis. "Judgment is our act" (p. 439), and "if compelled" (*ib.*), is yet compelled by a ground. The simplest case is that which Mr Bradley instances—our acceptance of the testimony of others. Surely this, as we re-think it, is never a simple reproduction of the content of the testimony: at the very least it is classified on the ground of something in its content and of our knowledge bearing on the matter, as "not incredible"; or in some such way the ground of acceptance is embodied in the content of the judgment.

Thus, "mere" judgment, arbitrary synthesis of suggestion with reality, are terms which to my mind convey no meaning. And the particular point, in reference to Mr Bradley's own view, which his account of the relation between judgment and inference appears to me to leave open, is this:—may I while fully admitting "that explicit judgment comes before explicit inference" (p. 441), nevertheless identify the act of judgment with inference of that class which has "an implicit centre, unavowed but active?" This is what I should like to do. But I am not sure whether inference of this class—comparison, distinction, recognition and the like—having an unavowed centre, are to come under the head of explicit inference (p. 441) or not. I should be fairly content to take these "inferences" as judgments in as far as the centre is not expressly avowed, but as partaking

of the character of inference in as far as it is operative or partially distinguished in thought; not holding the two characters of judgment and inference to exclude each other, but both to be concurrent from the beginning. The judgments of perception, for instance, would thus be distributed under the heads of recognition, comparison, distinction, abstraction. I say 'concurrent from the beginning'; for I do not think that a centre which is active is ever wholly and absolutely unavowed, though we should often be puzzled to give it a name before the inference had assumed a perfectly explicit form, and so passed, as I admit, beyond the type of ordinary judgment.

The mention of a mere judgment, however, makes me doubt whether by this interpretation I should meet Mr Bradley's views. I fear that he has in his mind a lower deep of judgments made as true, but absolutely without consciousness of dependence on a ground; without any feeling whatever even of an implicit centre of formation. I do not seem to find such judgments in my own mind. I do not believe that the "suggestions of sense" to a human mind are pure suggestions of sense. The orderly world which we see is already organised by the judging faculty. I am sure, too, that I cannot re-think what I am told by simple repetition and acceptance.

But I have said enough to indicate my point of view, and can do no good by insisting further on commonplaces which Mr. Bradley must of course have neglected wilfully and for reasons which seem to him sufficient. I will merely add as a corollary—that *of course* I find the same pernicious influence of "common sense" and popular realism in Mr. Bradley's acceptance of Sigwart's teaching that "all mediate certainty must stand in the end on immediate knowledge; the ultimate premises of proof cannot be proved". I did think that all this was behind us; that we now understood knowledge to be a system of such a character that A and B prove each other when put together, though neither is certain when isolated; neither, therefore, as knowledge, is immediate or ultimate.

In conclusion, I would remark that Mr. Bradley's main contention as to the place of subsumption in inference and the true nature of the inferential function appears to me to be made out. This achievement alone (and it by no means stands alone) would suffice to give his work a prominent place among the best logical treatises.

V.—CRITICAL NOTICES.

Progressive Morality. An Essay in Ethics. By THOMAS FOWLER, M.A., LL.D., F.S.A., President of Corpus Christi College, Wykeham Professor of Logic in the University of Oxford. London: Macmillan, 1884. Pp. 201.

This book is "an attempt to exhibit a scientific conception of morality in a popular form, and with a view to practical applications rather than the discussion of theoretical difficulties". It is therefore not primarily intended for the students of ethics who may be supposed to be readers of this Review: at least, in the present notice, I am rather called upon to examine the adequacy and coherence of Prof. Fowler's scientific conception than the degree of success attained by him in popular exposition. Still, before I proceed to the criticisms that I have to offer from the former point of view, it is only fair to say that the book appears to me, in style and manner of treatment, excellently adapted for the purposes for which it is primarily intended. When I disagree with the author, it is almost inevitable, from the nature of the subject, that I should sometimes attribute to him confusion or obscurity of thought or expression; but whenever I find myself in agreement with his views, he seems to me to have very successfully packed much instructive matter into lucid and unburdensome paragraphs.

Thus nothing can be better, for its purpose, than the greater part of ch. i., in which the moral motive or sanction, regarded as the "internal feeling of approbation or disapprobation with which, on reflection, we look back upon our own acts," is distinguished not only—as by Bentham—from the physical and legal sanctions, but also from the social sanction (which Bentham and others have called "moral") and from the "lower" and "higher" religious sanction. I do not myself think that what is here characterised as the "higher" religious motive, which operates when "we simply do good and act righteously, because God, who is the supreme object of our love and the supreme ideal of conduct, is good and righteous"—comes strictly under the head of "sanctions" as defined by Prof. Fowler: that is, I do not think it is clearly a case of pleasure attracting or pain deterring: but probably this psychological question is one of the controversial points which the author has wished to avoid.

In ch. ii., after effectively pointing out how the moral sanction "varies as applied not only by different individuals but by the same individual at different times," Prof. Fowler raises the fundamental question, How then, in spite of the variation, can we "justify the application of this sanction" as the "supreme and final sanction in case of conflict"? His answer consists of two

parts. He first urges that "in the main we approve of ourselves for having done what we thought right at the time, even though we may have come to think it wrong". This is, I conceive, true as regards the moral judgments of reflective persons: but if we are considering the moral *sanction*, *i.e.*, the pleasure and pain attending judgments of approbation and disapprobation respectively—I think it must be admitted that the emotional satisfaction with which we contemplate a past act, performed under a sense of duty which we have come to regard as mistaken, is at best a very feeble pleasure. At any rate, the proposition that this feeling should always prevail in conflict with others demands some further justification, besides a mere demonstration that it approves its own predominance. This further justification Prof. Fowler finds in the fact that "human nature, in its normal condition, is so constituted that the remorse felt, when we look back upon a wrong action, far outweighs any pleasure we may have derived from it, just as the satisfaction with which we look back upon a right action far more than compensates for any pain with which it may have been attended". I infer, however, from a later passage (ch. iv., p. 139) that by a "normally constituted" mind Prof. Fowler means a mind where the feelings of self-approbation and self-disapprobation are "very strong"—since it is only in the case of such a mind that he is prepared to affirm "that a man *always* gains more happiness in the long run by following the path of duty". This view, at any rate, importantly limits the application of Prof. Fowler's justification of the moral sanction; and this limitation, I think, should be more carefully explained in ch. ii. But, further, if the claim of moral sentiments to prevail is justified on the ground that they are "more intense and durable than other pleasures and pains," some qualification seems to be needed in the account subsequently given (ch. iii.) of "sacrifice" as an essential characteristic of acts morally approved. I do not see how, according to Prof. Fowler, it is possible for a "normally constituted mind" really to sacrifice its "own good to the greater good of others": I do not even see how moral action can even *appear* to such a mind under the form of "sacrifice," provided that it has duly apprehended the greater intensity and durability of moral pleasures and pains.

I have, however, a more fundamental difficulty with regard to the analysis of the moral sentiment given in ch. iii. Prof. Fowler aims at "discriminating carefully between the intellectual and emotional elements in an act of approbation or disapprobation": and following Hume's "peculiarly lucid treatment" of this distinction, he explains that "whether we are reviewing the actions of ourselves or of others, what we seem to do, in the first instance, is to refer them to some class or associate them with certain actions of a similar kind which are familiar to us, and then, when their character has thus been determined, they excite the appropriate feeling of approbation or disapproba-

tion, praise or censure". Here, however, there is a fundamental question to ask, with regard to which Hume's answer seems to me different from Prof. Fowler's. In this intellectual reference of an action to a class which precedes the feeling of approbation or disapprobation, is the class conceived as having *ethical* characteristics—I mean, as being good or bad, right or wrong—or is it not? That Hume means to answer this question in the negative is quite clear; but if Prof. Fowler means to answer it in the same way, I think his language should be more carefully chosen. He speaks of this intellectual or logical process—when distinguished from the "*feeling* of moral approbation or disapprobation"—as a "moral judgment," a "decision upon conduct": and he gives as illustrations of it that "as soon as we have recognised an act as brave or generous, we regard with esteem or admiration the doer of it . . . no sooner is the act duly labelled as a lie, a theft, or a fraud, or an act of cruelty or ingratitude, or the like, than the appropriate ethical emotion is excited". No doubt it is; only, I conceive, in this "labelling" the acts are implicitly judged to be good or bad. When a plain man recognises an act as "brave" he implicitly recognises it as good or deserving of praise, at least in some respects if not absolutely; and in the same way "theft," "fraud," "cruelty," as commonly used, are dyslogistic terms—*e.g.*, in saying that a vivisector is cruel it is commonly meant not merely that he inflicts a great deal of pain in order to advance knowledge, but also that he ought not to inflict it. If then Prof. Fowler means to use the terms with their ordinary connotation, his view is different from Hume's; if not, such connotation should be more scrupulously excluded.

To a certain extent, I think, the book shows a hesitation or oscillation between these two incompatible views. Throughout the interesting discussion in ch. iii. (pp. 47-80), in which the distinctive characteristics of the object of moral approbation and disapprobation are determined, Prof. Fowler seems to be considering exclusively moral *sentiments*; as if he held with Hume that "the final sentence which stamps on characters and actions the mark of approbation or censure" depends on some "internal sense or feeling". And in accordance with this view he explains that "the feelings of moral approbation and disapprobation can never be properly described as erroneous . . . the error attaches to the preliminary process of reasoning, reference, or classification". In ch. iv., however, we are told that in the logical process of which the moral judgment is the result, "there are two possible sources of error. In the first place, the act of reference or association may be faulty . . . but even if the action be referred to its right head, there remains the second question whether we are really justified in regarding the class of actions itself as right and wrong." This second question clearly relates to a judgment or opinion, not a mere sentiment: there are, as Prof. Fowler goes on to say, "wide divergences of

opinion on matters of conduct," so that it is of vast importance to "discriminate between those acts which are really and those which are only reputed, right and wrong". For this kind of discrimination Hume's view, as I understand it, leaves no room: in attempting it, Prof. Fowler seems to me to have left Hume behind, and to have accepted the fundamental assumption of an objective rightness and wrongness in actions, which is strictly incompatible with Hume's system. Where Hume only explains, Prof. Fowler is prepared to justify.

Where then is the justification to be obtained? Prof. Fowler agrees with Utilitarians in holding that it "must be derived from the observation of the effects and tendencies of actions": and the manner in which he traces the progress of morality as the result of the continued application of this test, at first in a merely semi-conscious and almost instinctive way, and afterwards, in the later stages of civilisation, by the consciously reflective action of philosophers and reformers, affords a good specimen of his terse, fluent and generally judicious exposition. It appears to me, indeed, over-dogmatic to affirm that "wherever any change of moral conduct takes place, unless it be dictated by blind passion, or mere submission to authority the change is *invariably* due to some change of opinion on what constitutes the advantage of the persons whom it affects"; since—to take Prof. Fowler's own instance—I should attribute such a change as that which has brought about the abolition of slavery rather to an increased general concern for the feelings of slaves than to a changed opinion as to what constituted their advantage. But I have a difficulty in criticising closely Prof. Fowler's view of moral progress, since I am unable to conceive with any precision the application of the test which he proposes. He holds, with Bentham, that "we may rightly regard the tendency to produce a balance of pleasure over pain as the test of the goodness of an action"; but he considers that in estimating pleasure and pain we must "frankly acknowledge that there are some pleasures and pains which are incommensurable with one another," and also "recognise the fact that our pleasures differ in quality as well as in volume". Now I cannot myself remember to have experienced any pleasure or pain strictly incommensurable with any other feeling definitely recognised as pleasurable or painful: *i.e.*, I cannot recall any one pleasure so immeasurably greater than some other that I should prefer the former, however limited in duration, to an indefinitely prolonged pleasurable consciousness of the latter kind: and similarly *mutatis mutandis* of pains. And if such incommensurabilities are really found in the conscious experience of others, it seems fundamentally important to know—what Prof. Fowler does not tell us—how many grades of incommensurability there are, and what pleasures and pains belong to each grade; since it is obvious that, in testing rules of conduct by a rational estimate of

their effects, wherever any pleasure of an incommensurably higher grade comes in, the whole aggregate of pleasures of a lower grade, however prominent they may be in our forecast of consequences, will have to be discarded from practical consideration. Surely a calculation conducted on this plan would turn out very unlike that ordinary regard for consequences which Prof. Fowler represents as being historically the spring of moral progress.

But the calculation becomes still more perplexing if besides these incommensurables we are to take into account differences in "quality" as contrasted with differences in "volume". By what standard are we to compare superiority in quality with superiority in volume? and why is it to be assumed that men's common judgments as to the "high" or "low" quality of pleasures are less open to the charge of "prejudice, fancy and caprice" than their common judgments as to the goodness or badness of actions? I observe that Prof. Fowler prefers to call his ultimate standard of morality "welfare" or "well-being" rather than happiness, partly because it "corresponds almost exactly with the *εὐδαιμονία* of Aristotle". I am afraid that this is, in my view, a reason for objecting to it; since I find that Aristotle, in determining the particulars of *εὐδαιμονία*, appeals to just those common moral opinions as to virtue and vice for which a test, in Prof. Fowler's view, is required. Now if, when we ask how to distinguish what is really "good" in conduct from what is reputed such, we are referred to the effects of actions on social well-being, it is clear that the test will be illusory if the notion of well-being is to be, in its turn, wholly or partially identified with that of good conduct; but it is just this identification that is the prominent characteristic of Aristotle's treatment of *εὐδαιμονία*.

I have hardly space to comment on the last chapter, in which Prof. Fowler gives "some examples of the manner in which the test of conduct may be applied to practical questions, either by extending existing rules to cases which do not obviously fall under them, or by suggesting more refined maxims of conduct than those which are commonly prevalent". But I may observe that the particular duties which he proceeds to enforce are to a great extent such as ordinary men would admit to be obligatory in any theoretical discussion, however much they may practically neglect them; at least I cannot recall any grave arguments in favour of smuggling, evading taxes, accepting or offering bribes, reckless gambling, inconsiderate almsgiving, borrowing without a reasonable prospect of repaying, or the minor social faults of impertinent curiosity, impertinent advice, and the like. And in those cases in which Prof. Fowler has pronounced on points that are really matters of serious controversy, it seems to me that his reasoning is liable to lack cogency from excessive brevity. Thus it is not made clear why "under all circumstances" suicide involves the "evil example of cowardice" more than any other

avoidance of useless pain: nor, again, why "cock-fights and bull-fights" are to be summarily dismissed as admitting of no justification, if the "beneficial effects in enjoyment" to the fox-hunter are to be adduced to justify foxhunting. Still, in spite of this undue abbreviation of the arguments, the frank, earnest, practical survey of neglected duties which this chapter presents is a commendable feature in Prof. Fowler's treatise; and contains instruction for readers of all classes.

H. SIDGWICK.

The Origin of Ideas. By ANTONIO ROSMINI SERBATI. Translated from the Fifth Italian Edition of the *Nuovo Saggio sull' Origine delle Idee*. Vol. III. London: Kegan Paul, Trench, 1884. Pp. xvi., 442.

In this third and last volume, completing the English translation of the *Nuovo Saggio* (former volumes noticed in MIND XXXI., XXXIV.), Rosmini treats of his intuition or "idea of being," *alias* "Ideal Being," as "source of all certainty," criterion of truth, and inasmuch as "it is the means of knowing all *other things*" (*sic*), itself Truth or "the truth".

Incidentally, there is much criticism of other philosophies, especially as to their "starting-points," which is of the same indiscriminate and disproportionate kind as was found in vol i., where enormous space was devoted to the discussion of Dugald Stewart's views and other obsolete or obsolescent strings of opinion. Here, while Kant and Fichte are shortly dealt with, Bouterweck and Bardili have an almost equal place, and Cousin has a whole chapter to himself.

As in the other volumes, there is much declamation and dialectical diffusion, frequent 'improving of the occasion,' and the reader is continually on the sublime treadmill of "Ideal Being"—a perpetual motion without progression.

From perusal of the 1200 pages or so of the *New Essay*, the most patient student will probably rise with little but a sense of fatigue and a conviction that all Rosmini had to say to him and this generation, was already sufficiently said in his own summary, the *Sistema Filosofico*; and that the *New Essay*, if thought fit for presentation at all, would have been better presented to English readers in a selection of passages with connective comment.

The most to be made of the gift in hand, is by way of looking for further light on the nature and worth of "Being" as a *primum cognitum* and *conditio cognoscendi*. And the secret of Rosmini seems to be nearly found in the following sentences: "The ancients were aware that all philosophy started from a fact, and that this fact was no other than the intuition of being taken universally—or, in other words, the actual existence of an intellection" (p. 36). "What do we mean by saying that our mind conceives things as different from itself? *Simply this, that*

they are objects of our thought. . . . This is true even when I think of myself; because by this act, I, the thinking subject, become the object of my thought: nevertheless, in so doing, I consider myself in so far as existing in myself and nothing farther. Thought, therefore, essentially terminates in an object, namely, in a thing different from the thinking subject *as such*" (p. 52). So, that we cannot think without thinking thoughts; that knowing implies objects known; that the object, *as object*, is always the object only and not the subject, even where, as in the above *instantia præclara*, they are otherwise as obviously one as in this regard they are two; and that one presupposition of all thinking and knowledge—origin of all ideas—is the form or category of objectivity-in-general, or *a priori* "intuition of Being taken universally"—this is the sum and substance and finally exposed secret of Rosmini. It is true and valid so far as it goes; but that is a very little way, or indeed none at all, when this limb of living thought tears itself off from the life or organic unity of knowledge, petrifies itself, and sets itself up, as it does throughout Rosmini's speculations, for the whole. This usurpation is a self-stultification and suicide, and is best characterised by the words Rosmini applies to Bardili (p. 315): "The greater is the number and excellence of the objects embraced [or embraceable] by a thought, the vaster also and more perfect is that thought. And if we suppose those objects to be entirely withdrawn, the real thought will no longer exist. A thought so abstract, so completely void of objects [and of *possible* objects] is a most attenuated abstraction." One has only had to add the words in parenthesis to make the condemnation adequate to "Ideal Being," since that half-thought is not the embraceableness of aught without its other half. The unifying grasp that confers objectivity cannot be, without the opposing thumb of subjectivity-in-general. Such, then, is "Being," Presence (p. 48), Presentableness, or Objectivity-in-general-by-itself,—the isolated and imbecile and even essentially impossible fraction of the emptiest of categories. In truth, it is but a would-be presentableness—utterly and hopelessly inchoate.

Rosmini's *rationale* of the universe or experience does not start from the prime fact of consciousness, which, as form of intelligence in general, does possess the universal worth or application he claims for his first principle; or, to use his own words, "not from the act" [or fact] "of consciousness itself," [*i.e.*, as a whole], "but from what consciousness, by that act, conceives, and testifies to itself that it conceives, as its object." That is to say, from the whole fact he dissevers its objective phase, moment, or constituent, at the same time divesting it of its native fluent judgment-form and ossifying it into a somewhat conceived, or concept. But this "somewhat" is only a "that which," and is quite bare of real whatness. Notwithstanding, it thereupon begins business on its own account, as maker of mind and origin of ideas.

Another way to understand what Rosmini has done to get his

beginning, and why, therefore, it is a false beginning that does not begin, and must refuse to develop itself or to explain any development that may be brought to it for explanation, is to see that he has (*per impossibile*) converted the abstract form or *method* of affirming or positing-in-general, into "pure" positedness-in-general—a *conditio sine qua non* of all thinking or thinging into an immense thing or thingness, posing as "the means of knowing all other things!"

From this, one draws that the "other things" are somehow things in their own right, and, as such autogenous things, quite independent of Being, whatsoever need they may have of that vast shadowy blank Thing-generalissimo to get themselves drilled, marshalled, and transformed into *known* things. This is what comes of universal constituents or transcendental conditions of the known world, tiring of "validity" and claiming "existence" and trying to figure as concrete parts,—a condescension on the part of these regent movements in the organism of thought, which amounts to abdication and *felo-de-se*.

Suppose the descent allowed. What then? How is the 'pure' Thing, this merely self-identical position *per se*, to serve as test of truth and "source of all certainty"? One hundred pages of this book expound Error, and the upshot is that "error invariably consists in a synthesis of objects wrongly made". If so, then Truth will fall to be defined as *synthesis of objects rightly made*—a right placing of objects in the context of experience. But how will an abstract concept of quite indeterminate being either effect truth or correct error? It cannot be a principle or norm of synthesis, inasmuch as all it can say of itself is, 'that it is,' and only and always 'that it is' or 'that it is the bare possibility of isness'. When the philosopher says 'Move on,' all he elicits is a '*Non possumus*'. Beyond this it cannot go towards gathering, relating and right-setting of objects (or things) not even when "all other things" are given to its hand ready-made, as Rosmini gives them; for with him feelings or felts are already things in "real being" without waiting for any impotent attempt of "ideal being" to grasp and concrete them, and it only comes in afterhand to rescue them from a "subjectivity" which they do not suffer from, for surely their feltness is already objectivity enough. One of these "real beings," for instance, is "Myself," and it is astonishing how much it is and how rich, before "ideal being" comes up (p. 127). It is not merely "a fundamental feeling" and a "substantial" one too, but even "a substance, a being subsisting with an internal energy!" And when "Being" has at last arrived—what then? (p. 128). It "exists!" But did not its previous highly complex whatness involve its mere thatness many times over? "Nevertheless, by analysing the perception of ourselves as well as of all other subsistent things, we find that pure existence is an *activity* different from feeling. Whence it follows that we, who are a

substantial feeling, receive existence from a source other than ourselves." I confess I cannot follow Rosmini here, and he himself forbids me in a thousand places. Pure being through its very purity or indeterminateness cannot be determined to *activity* (p. 52). "*To exist and to be present* are different from *being engaged in an action*." "Activity" is quite another point of view than "Being"; though probably neither attains its truth and meaning without the implication of the other; and it may require the implication of many other points of view or methods of synthesis, a manifold stereoscopy, in order that "things" may have what one may call a solid standing in the world of experience. Amongst others, one might say that the category of self-consciousness, as general type of self-reference and coalescence or concretion—*i.e.*, of Being-for-self—must have been in some inward way imputed to a manifold before there can be a "thing" or even a single least "feeling". For, perhaps, it is only because 'a many' is already 'a many of *ones*,' and of true ones or unities, and in no other way can be a many or manifold, that there can be any possibility of 'a many *in one*,' a true one or unity, such as every merest feeling is, if it is at all. In other words, it may be that "feeling" is feeling because it is always more than feeling by so much inwrought thought, and there is never either matterless form, like Rosmini's "Being", or formless matter, like Kant's manifold.

Our admiration of Rosmini's fervour, eloquence and good intent, cannot blind us to his first and pervasive mistake. He had the misfortune at the outset to break the category of self-consciousness in two, and picking up the objective fragment to think he had found the clue to the right and only possible synthesis of experience. To make matters worse, he took the fragment statically rather than dynamically, in pause and at term rather than in act, as the actuality of possibility rather than as the possibility (potentiality) of actuality, and as universal *ante res* rather than as universal *in rebus*. This misapprehension will probably be found to vitiate his philosophy throughout.

He has criticised Kant's psychological dualism without discerning that he himself is only a psychologist and dualist, sundering "Pure" Idea from "Pure" Reality, Sense from Intellect, as hopelessly as Kant does anywhere, and, when he examines Fichte's theory of knowledge and being, showing that he himself has entirely missed the philosophical problem and point of view. Take this example of misunderstanding. "Fichte pretended to draw everything from the *human* subject!"

Rosmini, much in love with the naïve and unmediated realism of Reid's school, set out in search of a *reasoned* realism, and so far good; but what is the staff (Ideal Being) he trusts to on his journey but a broken reed? Often by the way he finds fault with the "subjectivity" of Kant's categories, and this fairly enough where he finds Kant psychologising and machine-making:

but what is to be thought of his own, when, nearing the end of his essay, he tells of Being, that "it reveals to us no subsistence outside the mind, and on this account may be called by the name of logical being", and (p. 335) "is simply a logical principle, a rule to direct our spirit, an idea". Has Kant ever more effectually shut us up? Thinkers less heavily-armoured and nimbler may find relief in the *aperçu* that absolute and universal subjectivity and absolute and universal objectivity are all one. But this way of escape is not for Rosmini, immersed in the psychological *plane*; for to rise up and leave the ring of vicious because partial subjectivism in this quiet way, requires a kind of third-dimensional thinking.

Still it would be unfair to Rosmini to close without brief statement of his own heroic and magical way. With one turn of his kaleidoscope, he recovers sight of his lost "realism"—now transfigured and mystical. Besides felts and knowns and objects and subjects, there are now (p. 107) facts-in-themselves, neither felt nor known, and evidently quite unknowable in their inseity on any terms (p. 114). "The matter of cognition, the fact taken by itself alone, is a thing mysterious and occult". Nevertheless "this mysterious and occult *activity* (!) lying in the fact, is the root of knowledge itself!" Yet so far, the facts-in-themselves seem doomed to irremediable opacity. But with the next turn of his instrument, Rosmini gives us a fair prospect of eventual transparency. "Being" is no longer mere inert being, but "Activity" or Life *par excellence*. Now (p. 116) "what we see by nature is the first of all activities"; and "were this being, by unfolding itself more openly before our mind, to emit from within its hidden depths its proper activity so as to be terminated and completed, we should see God". "Hence if we knew being perfectly, that is, with all its terms, we should, as S. Thomas says, know all things."

Thus we are given to see mere Being or blank surface acquiring depth, depth acquiring many-shaped and coloured content, this All becoming diaphanous and alive with self-determining activity, and the infinite self-difference returning into itself and its unity in the all-embracing self-consciousness, God—the universal spectacle which is its own spectator, of whose countless eyes the reader is perhaps one in embryo, an incipient facet of the infinite subjectivity over against the infinite objectivity. With this momentary glimpse of a beatific vision, the curtain must fall.

J. BURNS-GIBSON.

Esquisse d'une Morale sans Obligation ni Sanction. Par M. GUYAU.
Paris : F. Alcan, 1884. Pp. 254.

This is an interesting and valuable essay towards the establishment of a "scientific" ethics. The author, who is already favourably known for what he has done in recording the history of ethics, has now set himself to make material for that history.¹ He does not, indeed, break absolutely new ground, for Spencer, Simcox, Stephen and Höffding are among his predecessors. Yet he has ideas of his own, both as to the details and as to the general position of his subject, which justify this independent contribution. His work is written in a lively and often forcible style, although a tendency sometimes shows itself to substitute illustration or epigram for argument. This tendency appears in a confusing way, even when he is defining the limits of his inquiry. Thus he says (p. 9) :—

"Quel sera donc le but naturel des actions humaines ? Lorsqu'un tireur s'est longtemps exercé sur une cible, et que l'on considère les trous innombrables dont il a percé le morceau de carton, on voit ces trous se répartir assez uniformément autour du *blanc* visé. Aucune des balles, peut-être, n'aura atteint le centre géométrique du cercle de la cible, et quelques-unes en seront fort éloignées ; néanmoins, elles seront groupées autour de ce centre suivant une loi très régulière que Quételet a déterminée : la *loi du binôme*. . . . Cette recherche, après coup, du but visé par le tireur peut être comparée à celle qu'entreprend le moraliste quand il s'efforce de déterminer le but ordinaire de la conduite humaine. Quelle est la cible constamment visée par l'humanité ?"

I quote this passage to show what a multitude of assumptions may be covered by a single metaphor. The assumptions in this case are three :—(1) that there is one permanent or constant end which human conduct always aims at ; (2) that this end is either unconsciously pursued or, at least, never aimed at consciously by those whose testimony as to its nature can be trusted : so that, in order to ascertain what it is, we must simply observe the external facts of conduct, and from them infer what the mark aimed at has been ; (3) that, when this has been done, we have got a theory of ethics. Of the assumptions made here implicitly, the first and third are more or less explicitly adopted and defended, the second is not referred to. As regards the third of them, the author is, of course, not ignorant that it is one thing to find out the actual conduct of men ; another thing to determine how they ought to act. The former question belongs to anthropology or to psychology ; the latter is commonly regarded as the properly ethical question. Yet this is the question which

¹ The second of M. Guyau's historical volumes *La Morale anglaise contemporaine*, reviewed in MIND XVIII. (after the earlier one, *La Morale d'Épicure*, MIND XVI.), has just appeared in a second edition (Paris : F. Alcan) with a short chapter, pp. 187-94, inserted on "The later disciples of Darwin and Mr. Spencer : Clifford, Barratt, Leslie Stephen".

M. Guyau expressly dismisses. He will have nothing to do with final causes, only with efficient causes; not the desirable, but what is actually desired is to form his subject (p. 8). And he seems to think this a consequence of his claim that morality should be treated from the purely *scientific point of view*. Every moralist should admit this claim so far as it is a claim for scientific or logical method. But in our author, and in many other writers, it amounts to a claim to treat morality from the *point of view of some other science*. It is thus really an endeavour to do without the fundamental conceptions of morality, and seems as little likely to lead to satisfactory results in ethics as it would be, in biology, to ignore the fact of life, or, in physics, to dispense with the conception of energy.

The assumption that there is one constant end of conduct is also frankly stated. M. Guyau even adopts the maxim of psychological hedonism: "that conscious life follows the line of least pain" (p. 9), or—generalising the proposition so as to admit unconscious and automatic acts—"the line of least resistance". And this is identified with the evolution of life (p. 11); while the end of action is but motive cause become conscious (p. 10). Life, or the evolution of life, is, therefore, our author holds, at once the cause and the end of all human and animal conduct; and this cause in action takes the line of least resistance, which, in the case of conscious beings, is the line of least pain. M. Guyau thus shares with most evolutionists the over-hasty generalisation which identifies the evolution of life with the increase of pleasure and diminution of pain. Yet all that the theory of evolution shows is that there is a tendency to bring together pleasurable acts and acts which preserve life and aid its development, and to make the actions hostile to this preservation and development painful. This, however, is only a tendency which has not resulted, and is not likely to result, in a complete concomitance of pleasure and development. Painful effort is called into play in order to meet the complicated adjustments which increasing function requires, while the slow diminution of spontaneous functioning implied in the process of degradation has been supposed to be highly pleasurable.

It does not seem to me, therefore, that M. Guyau is more successful than his predecessors in getting a satisfactory basis for the ethics of evolution. But this is with him merely a preliminary. His aim would seem to be not so much (as the title of his book suggests) to lay the foundation of ethics without obligation or sanction, as to inquire what substitutes for these conceptions can be attained on the lines of naturalistic evolution. According to the author, the admissible substitutes are five in number: (1) the consciousness of our internal *power*; (2) the mechanical influence exercised by *ideas* upon action; (3) the increasing fusion of our *sensibilities*, and the growingly social character of our pleasures and pains; (4) the love of *risk* in

action; (5) the love of metaphysical hypothesis, which is a sort of *risk in thought* (p. 4). The first three of these are recognised elements in the springs of human activity, and as such are dealt with in M. Guyau's first book, "*Du mobile moral au point de vue scientifique*"; the two last, on which the author lays great stress, are reserved for the last book, on "*Derniers équivalents possibles du devoir*".

The substitutes for obligation, then, are to be found in the region of motives to action. Moral action, according to M. Guyau's view, would seem to be that action which leads to the continuance and increase of life. But, as this is the necessary end or motive of all action, it can afford no criterion for distinguishing moral from immoral action—a criterion which seems really to be found in the social (or altruistic) as distinguished from the selfish principle of conduct.

In the first place, it is argued that increasing intensity of life involves its increased expansion. The fact of reproduction is, of course, a case in point; whilst the extra-regarding tendency of strong emotional natures is evident. "Life," says the author, "has two aspects: that of nutrition and assimilation, and that of production and fecundity. Even in the life of the blind cellule there is a principle of expansion which makes the individual insufficient for itself. The life of richest content is most impelled to be lavish with itself, to sacrifice itself in a certain measure, to share itself with others. Hence the most perfect organism will always be the most sociable, and the ideal of the individual life is life in common" (p. 24). But this conclusion goes far beyond what the premisses justify. It is true that the activity of every organism brings it into relation with other organisms. But the organism in which life is fullest and strongest often relates itself to others by sacrificing them to itself, and not itself to them. Self-aggrandisement is an outlet for superfluous vital energy as well as self-sacrifice, and to many organisms it seems a much more obvious outlet. It is true that the selfish tendency is limited by sympathetic emotions; but M. Guyau has not shown that the strength of these emotions is in proportion to the intensity of life.

In the next place, the author tries to determine the measure in which the motive power of action can produce a sort of obligation. The argument here depends on the foregoing doctrine of "moral fecundity," and is applied to will, intelligence and sensibility successively. From the point of view of will, there is a superabundance of vital energy demanding exercise; "every such power produces a kind of duty proportional to it. . . . From this point of view there is no mysticism in moral obligation" (p. 27)—nor, as the previous reasoning has shown, is there any morality. From the second point of view, intelligence is a motive power, the very conception of an action producing a tendency to act so as to realise it. "What is called obligation or moral constraint is,

in the sphere of intellect, nothing but the consequence of this radical identity" between thought and action (p. 28)—except that, in what is ordinarily called obligation, the moral constraint is to do good, whereas M. Guyau's substitute for it applies equally to good and evil. The nearest approach to a distinction which the author gets is when he adopts the third point of view, that of sensibility. Now it is certainly true that the "social sanction" goes much deeper than the rewards and punishments, or good and ill report with society, relied on by individualistic ethics. "One always feels a sort of internal pressure exercised by the activity itself in these directions; the moral agent, by a propensity which is at once natural and rational, feels himself impelled in this sense, and feels that he would have to make a sort of inner *coup d'état* to escape this pressure: this *coup d'état* he calls fault or crime. And in committing it the individual wrongs himself: he voluntarily diminishes and destroys part of his physical or mental life" (p. 33). This position, which resembles that adopted in Miss Simcox's *Natural Law*, does not allow for the fact that the course of development has brought other than social feelings into play. In the evolution of conduct, there naturally arises a diversity of instincts, the result of previous habits of acting, which exert, partly unconsciously, partly consciously, a pressure or impulse to act upon the individual will. Certain of these impulses or instincts are (or, rather, seem to be) indestructible. These act permanently or constantly, and are not connected with the satisfaction of a transient desire, but with an expenditure of force which may work itself off in various ways; this being the explanation of the tendency such instincts have to become insatiable and continuous. It is important, however, to remember that "this sentiment of obligation is independent of the *direction*, moral or not moral, of the instinct" (p. 43); so that it seems inconsistent to restrict this quasi-obligation to those tendencies which are in harmony with the development of the species (p. 42). There may be such a pressure to act in certain ways; but it is not exclusively in the lines of sociality, for the selfish instincts have a like indestructibility and constancy with the social.

An important aspect of the question, which M. Guyau discusses in an interesting way, is the relation of consciousness to this, and, generally, to all instincts. He contends that the instinct, by becoming conscious, tends to rationalise itself, and thus to cease to exist as instinct. There is a constant tendency, therefore, not merely for moral impulses and sentiments to become more conscious, but also for them to pass into a different—a rational—form; and, unless they have a rational, as well as an instinctive, basis, the tendency is for them to pass away altogether. There is no danger, he thinks, of Mr Spencer's prophecy being fulfilled, and the altruistic instinct becoming so strong that men will compete with one another for opportunities of self-

sacrifice. The danger consequent upon the disappearance of instinctive morality would seem, indeed, rather to lie in an opposite direction—in men asserting for themselves individually their “character as rational beings, which is,” Prof. Bain says, “to desire everything exactly according to its pleasure-value”.

It is necessary to omit consideration of M. Guyau's criticism of the ordinary ideas of obligation and sanction, and to pass at once to his own original contribution to the subject in book iv.

With the tendency of life to expansion, the influence of ideas on action, and the increasing sociality of the sentiments, there is still much left to be done for our author's theory. “A morality exclusively scientific cannot,” he acknowledges, “give a definite and complete solution of the problem of moral obligation” (p. 136). We must pass beyond mere experience; and M. Guyau's substitute for duty is completed by the element of *risk* in life and thought. Under this idea of risk, M. Guyau considers two things which he seeks to bring into close relation: the pleasure got from risk and danger, and the “metaphysical risk” in speculation and moral action. In the first chapter of this book he gives an interesting analysis of the fascination which an element of enterprise and uncertainty lends to action. Yet the habit, which reflection encourages, of examining the ends of conduct and estimating their utility, after discounting the pain to be undergone for their attainment and the risk of failure, tends to diminish the pleasure-value of the enterprise.

A consideration similar to this applies with additional force to the chapters on “metaphysical risk” in speculation and action, in which M. Guyau seeks to supply the deficiencies of his substitute for moral obligation. It is true that metaphysical speculation may be valuable even as an intellectual gymnastic, and that there is something ennobling in following duty rather than the seductions of desire, or in subordinating private ends to the good of others. If I understand him aright, this is the element of the old “absolute morality” which M. Guyau wishes to preserve, and which he thinks can be preserved by allowing the freest scope for speculative hypotheses or poetic fancies as to the ultimate ground of things. To justify rationally an act of charity pure and simple, the moral agent must objectify the sentiment by which he acts and imagine an eternal charity at the root of things (p. 227). But if an opponent were to write the word “selfishness” instead of “charity,” I do not see what good answer M. Guyau could make to him. It appears to me, moreover, that the author has overlooked the fact that, just as consciousness is fatal to instinct and makes it give place to deliberate and reasoned action, so speculative beliefs are changed in character when subjected to criticism. If they can stand the criticism, they retain their old influence on a more secure foundation; but, if reflection shows them to be baseless, they inevitably—though, perhaps, gradually—lose their power. Now, according

to M. Guyau, the metaphysical basis sought for moral ideas is logically invalid; and his warm endeavour to retain them as hypotheses is really an attempt to found right action on speculative illusion. As he acknowledges (p. 230), such ideas will only have the force of obligation so long as the hypothesis on which they rest is recognised as the most probable by me; and, he might have added, the force of the obligation will diminish as the probability appears to decrease. But, on his own principles, the hypotheses by which morality is to be supported are not valid hypotheses at all; for each of them could be opposed by a contrary hypothesis, equally valid and equally invalid, since he leaves no means of deciding between them. The result may be matter of regret; but if M. Guyau has killed the goose, how can he expect any more golden eggs?

It seems to me, therefore, that M. Guyau's work cannot stand the test of self-consistency, while it shows the confusion of points of view common in so many of the attempts to build a theory of ethics on the basis of natural evolution. Yet his book possesses, in a very striking way, "les qualités de ses défauts". Coming so soon after M. Fouillée's quest for the foundation of morality in the limits set to thought by an over-confident agnosticism (*cf.* MIND XXXVI., 592), it is of peculiar interest. The author seems to acknowledge, as Lange did in concluding his *Geschichte des Materialismus*, that Idealism is necessary for Ethics; and, if the structure he raises is insecure, this is due to the crudity of the materials out of which he has to construct his foundation, rather than to any want of skill on the part of the builder.

W. R. SORLEY.

Biologische Probleme zugleich als Versuch zur Entwicklung einer rationellen Ethik. Von W. H. ROLPH. Zweite, stark erweiterte Auflage. Leipzig: Engelmann, 1884. Pp. vi., 238.

As already mentioned in a preliminary note (MIND XXXVI., 612), the author of this attempt to construct a rational ethics on a biological foundation (first published in 1882) died prematurely, of pulmonary disease, in 1883, when preparing the present much enlarged edition, which Prof. v. Giżycki of Berlin has finally revised and seen through the press. Born at Berlin and educated in Germany, Rolph was the son of an English father, and it is interesting to see how frequently he refers to recent English writers on ethics, of all degrees. He was a trained naturalist and had already done original work in biology when he began to give attention to ethics. In the present volume, too, considerable space is given to biological observation and theory; a speculation on parthenogenesis, in ch. 5, being particularly noteworthy. The chief thing to be aimed at here, however, is not to give an account of his special work in biology, but to show how he has developed his ethics from ultimate biological principles.

Rolph's ethical doctrine is based on his view of evolution. He contends, in opposition to Darwin, that the cause of evolution is not to be found in a struggle for mere life, but in a struggle for improvement in the conditions of life. Darwin's theories, he thinks, have been too much influenced by the Malthusian law of population. Competition for food between organisms of the same species is really a secondary phenomenon, not one that everywhere accompanies life. And the effect of pressure of population, where it exists, is not to cause advance, but rather degeneration. Advance in organisation always springs out of a state of prosperity, a state in which there is abundant nutriment. It consists solely in greater adaptation to the conditions of life, in increased power of appropriating the material which the environment supplies. When an organism,—a parasite, for example,—loses some of its organs through disuse, we must not call this degeneration. If by losing organs an animal is enabled to survive and obtain more abundant nutriment instead of succumbing to the agencies that threaten to destroy it, then it is advancing in organisation though not in complexity. Every new position gained by the organism in its progress is a limit which it again strives to pass beyond. We find everywhere the impulse to improve the conditions of life. Thus there is an active struggle among organisms, not a mere "defensive war"; each struggles to obtain the greatest possible advantage for itself. The command of "animal or natural ethic" is, therefore, not simply self-maintenance, not "to live normally," but to pass beyond the limit that has hitherto been the normal, to develop new needs and to satisfy them.

The impulse of organisms to advance is deduced from a law of assimilation which, it is contended, can be stated in mechanical terms. All organic matter grows by a process of diffusion, a process in which endosmosis predominates over exosmosis. Diffusion is a purely mechanical process; and by a consideration of the nature of this process, as it takes place in organic matter, all the phenomena of nutrition, of cell-division (which is merely growth beyond the limits of the individual cell), and of reproduction (which is, ultimately, a process either of cell-division or of nutrition), can be completely explained. There is no limit to the process of assimilation by endosmosis. Each cell, and consequently each organism, has the property of "insatiableness" (*Unersättlichkeit*). Thus we may speak of a "mechanical hunger" as the cause of all the actions of organisms. To this, at a certain stage, "psychical hunger" begins to correspond. This first makes itself felt as pain. Pleasure is only a secondary phenomenon. The cause of all action is, psychologically, pain. For pleasure, being a state which we seek to prolong, can never be the cause of a change of state. When we seek a greater pleasure in place of that which is present, the *end* of the action is certainly pleasure, but the *motive* is a feeling of dissatisfaction, that is, of pain. And this must always be so. Pleasure may be the end, but only pain can be the motive of action.

Pleasure is not, as Mr. Spencer says, the accompaniment of normal action, but only appears when the limit of normal activity has been exceeded. The "happiness" which all living beings, from the time when they become conscious, desire, must be expressed, as the hedonistic schools maintain, by a sum of pleasures. In the course of evolution "absolute happiness" increases, while "relative happiness," that is, the happiness attained as compared with the ideal of happiness, diminishes. The state of perfect adaptation to the environment which is regarded by Mr. Spencer as the goal of evolution, is unattainable. In Mr. Spencer's view there is a "concealed teleology" which must be got rid of if we are to have an ethical doctrine based not on "subjective optimism" but on the objective study of life and its conditions.

Mr. Spencer in vain tries to find the beginnings of altruism in the lowest animals. Unconscious altruism is not altruism at all. "Animal ethic" is purely egoistic. It is only in the higher animals that we find the beginnings of social life; and it is among the social animals that the first limitations are imposed on egoism. Social life in man begins within the limits of the family. It extends itself not spontaneously but through constraint. Families first united with one another in tribes in order the better to defend themselves in the war of all against all which became fiercer as population increased. The idea of justice for a long time had no application beyond the limits of the tribe. It is in reality an extension of the primitive egoism. Sympathy is not strong enough to serve as a basis for morals. "Human ethic" must be based on the extension, first to all members of the tribe and afterwards to men in general, of the feeling which each individual at first has of his own right to all that he can obtain. Altruism has gradually extended itself as a consequence of increasing co-operation and division of labour, and these again have had their origin in egoistic emotions.

Moral precepts are statements of the course of action which is right under given circumstances. When the circumstances are those that are common to all places and times the precepts are of universal validity, and there are, corresponding to these precepts, virtues the practice of which is always obligatory. But the virtues are means to the attainment of happiness, not ends in themselves. The duty to practise any virtue is not thinkable apart from an authority that has the power of making itself obeyed. "Personal authority" is derived from the "authority" of the conditions of life. Man has no innate tendency to do right. The "innate tendencies" of human nature are the egoistic, unsocial ones. The principles of right action have to be taught again to each new generation; and inherited predisposition to virtue shows itself at most in greater susceptibility to moral education. The end of moral education is not, as some would have it, to produce characters that are spontaneously virtuous, but to cultivate as highly as possible the disposition to reflect on the ethical quality of actions. The ideal state is not one in which all are spontane-

ously moral, but one in which no one ever acts without reflection. There is no final reconciliation of "natural" and "social" ethics, the ethics of egoism and the ethics of altruism. They neither absolutely coincide nor are in absolute contradiction.

Through seeing clearly that the struggle in which favourable variations are selected for survival need not be a struggle for existence and nothing more, Rolph is able to correct many false social and ethical applications of biological theories. But his discussion of the causes of evolution suggests more than is implied in a slightly modified view of natural selection. He brings out clearly the question as to the meaning of the tendency organisms have to vary. He sees that forms of life are quite capable of advancing in organisation apart from the influence of natural selection; that, unless this were so, natural selection would have no materials to work on. At the same time he sees that to speak of an inherent tendency to develop is not an explanation of development. The explanation is found by him in the theory of the "eternal hunger" by which organisms are impelled to strive for an increase of life. Lange, he says, nearly arrived at the view that improvement and not mere persistence in the same state of life is that for which all living beings strive; but unfortunately Lange expressed his idea teleologically. It may be remarked that the same idea seems to be present in Hartmann's doctrine of the "teleology of the unconscious". Rolph's theory has, of course, an advantage over the others in that it is a real attempt at scientific explanation, not a mere statement in an imaginative form of that which is left unexplained by natural selection.

In his treatment of "human" as distinguished from "animal" ethic, Rolph succeeds in giving at least the outline of a consistent theory which really has its origin in a biological principle. If too much stress seems to be laid on the "authority" of the conditions of life, on the restraint to which the individual is subject, as the source of morality, it is to be remembered that in Rolph's view an equally essential condition of moral development is the power to put forth activity from within. Here we have an expression of the element of freedom in moral action. Rolph's theory of "hunger" as the primitive feeling, like his theory of the latest stage of the evolution of morals, seems at first to bring into too great prominence one of the external conditions of development—the appropriation of material from without: but here again we see that development is supposed to take place during the process of expending the energy derived from material already appropriated; there are even passages where increased power of acting is said to be the measure of progress in organisation. And throughout, although attention is especially drawn to the external conditions of life, yet development from within is clearly indicated as an essential element in all evolution; for the ideal is placed not in passive but in active adaptation to the external order.

T. WHITTAKER.

Religionsphilosophie auf geschichtlicher Grundlage. Von Dr. OTTO PFLEIDERER, Professor an der Universität zu Berlin. 2te stark erweiterte Auflage in zwei Bänden. Berlin: G. Reimer, 1883-4. Pp. xii., 640; viii., 676.

The second edition of Prof. Pfeiderer's *Philosophy of Religion* has now been completed by the appearance of vol. ii. It is, as the title-page states, largely expanded from the original edition. Dr. Pfeiderer is well-known in England as being also the author of a book on St. Paul, now translated, and as he is the Hibbert lecturer for this year, a short notice of the present, his most important work, may not be unacceptable.

These two volumes share the encyclopædic character of so many German works. They contain not only a philosophy of religion, but a theology, a comparative history of religion, and a history of the philosophy of religion. The last occupies the whole of vol. i., and it is an admirably clear and interesting account of the subject. It is not matter for a review because it is mainly expository, though the criticism especially upon Kant, whom of course now-a-days we all return to criticise, indicates the writer's position. The review of the present state of philosophical belief upon religion is very useful, and besides this we may refer especially to the chapters on Goethe and Hegel—to the former for its interest, to the latter for the lucidity with which a very difficult point of view is represented. But the appreciation which Prof. Pfeiderer shows for Hegel in vol. i. seems to desert him in vol. ii. (of which we shall now speak exclusively), for he brings against him the old charge of turning all reality into abstract thought, and a similar charge is made against Aristotle's "thinking upon thought" (i. 283). This is contradictory to Hegel's actual habit of regarding thought as concrete and manifested in history in its necessary development.

However, we will not speak of Hegel, because we are afraid of Prof. Calderwood. The method of the present work is very different from that of Hegel's. Prof. Pfeiderer calls it by the difficult adjective "genetico-speculative," the first half of which is translated on p. 663 into "historico-psychological". That is to say, he believes the science of religion has to trace the genesis of religious ideas in two ways: it must trace the actual changes through which they have passed, and in doing so it compares different religions together; and secondly it must point out those sources in the mind from which they spring. Without this previous observation of the human needs to which religion responds, the critical inquiry into the history of religions is impossible and their relative value unascertainable. The science of religion, by taking these two forms, mediates between religion and science (p. 658). But there is the word "speculative" yet to explain, and it comes in to help "psychological," which, as we know, is apt to coquet with a good many more things than psychology. The science of religion, it is rightly held, is incomplete without an

inquiry into the metaphysical idea of God. It will be as well to indicate briefly the general position which Prof. Pfeiderer takes with regard to metaphysics and religion, as best described in his last chapter on "Religion and Science". Religion is defined in one place (p. 29) as "that relation of life to the power that rules the world which seeks to end in communion of life with it," or again as the desire for communion with God (p. 652). It thus has a character of its own as much as beauty, with which it may be closely compared, and the criterion of its truth is its "value as edification," not its logical correctness as knowledge. But religion, though primarily practical, supposes also the theoretic truth of its ideas, and it may be regarded as the result of the convergence of theoretical reason and practical motives which mutually supplement each other. Thus it is not a mere affair of the heart any more than it is of the reason, but it is a meeting of heart and mind on the one hand, the heart is guided by a "rational impulse" (*Vernunft-trieb*) towards God; and its sense of dependence changes into a sense of communion with a Being, whom the reason, in its turn, believes to be the source of all existence, becoming in this belief emotional or religious. The theoretic belief in God as distinguished from the religious, Prof. Pfeiderer believes to be the true outcome of criticism. Phenomena are not as with Kant the only knowable realities, but the signs of a reality behind, and things-in-themselves are as necessary to experience as the unity of the Ego itself. But the correspondence of our thought and actual existence is only explicable by regarding them as based alike on a creative reason, the thoughts of which are expressed objectively in the laws of things, subjectively in the native functions of our thought (p. 642).

This idea of God is developed in Section 2, ch. 1. Reality is regarded with Schopenhauer as consisting in will, and this is possessed by all monads in their degrees (compare Lotze's theory). God himself is known by analogy with our own personality (p. 279), and thus is regarded as possessing all such faculties as knowledge, memory and the like. He is thus self-consciousness as the unity of all these faculties, and in the second place he is will; only a distinction must be drawn between the will as internal, and as external or in operation upon external objects. The will of God is immediate or internal, and it is transformed into the mutual interactions of the bodies we know in the world, just as the will of a general is transformed into the movements of his army. Such an idea of God, Prof. Pfeiderer believes to be "concrete monotheism," which unites theism and pantheism, and it is this concrete monotheism of which Christianity is the highest exemplar. For ourselves, we cannot understand how such a distinction in the will can be for one moment entertained, or how the idea of its "transformation" (*umsetzen*) into actual events is anything more than a mere re-statement of the

fundamental difficulty. What is fruitful in this view is that it postulates the rationality of the world in God, without which indeed faith and grace would be unmeaning terms.

The actual origin of religion is discussed in Section 1, ch. 1. Prof. Pfleiderer lays greater stress on the facts of religion as discovered by self-observation than on the theories about savage beliefs. In fact, if we may say so, he does not seem quite at his ease with savages. The original form of religion he believes to have been neither Fetichism nor Animism, but what with M. Réville he calls Naturism or the worship of the great forces of nature, on whom man felt his dependence and whom he feared and loved and yearned for. This at first sight is not very unlike Prof. Max Müller's belief that religion arises from a perception of the Infinite. Prof. Pfleiderer then seeks to show how different social processes led this original belief in different directions. With some it became Polytheism, with its transformation of natural into moral Gods, and its accompanying ceremonial and mythology. With some it became as with the Jews the worship of a single God (this is called Henotheism in a sense different from Prof. Max Müller's). With some it degenerated through the disintegration of society into Spiritism or Animism, or finally Fetichism. Now it seems to us impossible to attribute religious progress or degeneracy to social progress or degeneracy: they are both due in their different ways to the same changes of thought. But our purpose rather is to point out an error into which psychology is apt to lead us and has led Prof. Pfleiderer. His analysis of the religious consciousness may be quite correct, but it does not follow that it must be attributed in this form to the original man, any more than it follows, because all religion implies a perception of the infinite, that therefore the original religion was a perception of the infinite as such. Prof. Pfleiderer rightly objects to Animism and Fetichism that they presuppose the abstract notion of soul or spirit (p. 31), but he concludes that therefore they cannot be primary. The objection is equally good against his own theory. In fact there are two totally distinct questions: (1) What is the real nature of religion? and from this point of view religion does imply the notions of spirit or the infinite; (2) What is the first form of religion? and this, to put it moderately, must be decided by the facts. The facts may be as Prof. Pfleiderer states them, but they are not proved to be so by his psychology. The primitive form of religion does involve the essential notion of religion, and yet it may be as far as possible removed from revealing that notion in the shape under which developed religions know it; just as the first kind of punishment may be modelled on private vengeance, and yet the real nature of punishment be totally distinct from private vengeance which it supersedes. And we suspect that Prof. Max Müller has this distinction in mind in his *Hibbert Lectures*, pp. 43-6, though if so he has not there done it justice.

The rest of the volume is an account of religious ideas, or the elements of them, regarded from the triple point of view of history, psychology and metaphysic. The names of some of the chapters will give an idea of the vast range of subjects treated: *e.g.*, The Development of the Religious Consciousness of the Indo-Germanic and the Semitic Peoples, and of Christendom; the Belief in God, in Angels and Devils; Theory of Creation, of Revelation and Miracles; Redemption and Mediation; Theodicy; Church and Cultus; Religion and Morality. It is impossible to do justice, except in a very lengthy notice, to such a rich collection of well-arranged and well-told facts, and to so much luminous theology and suggestive thought. It will be best to take an example or two of Prof. Pfeiderer's method.

We select his discussion of Redemption and Mediation. He begins by recounting the different forms which the belief has taken from the natural religions and the Persian up to Christianity. He explains the Pauline doctrine as due to a "dialectic" between St. Paul's Jewish presuppositions and their new application to the death of Christ. Christ was to him the ideal or typical man, and his death was potentially the death of all to sin. With this is joined the belief in faith, or the inner process by which all become one in Christ, so that his death is no longer a mere expiation but a proof of God's love. The different views which theologians and philosophers have held are then expounded, and lastly comes Prof. Pfeiderer's own view. Redemption he believes to be founded on an inner experience, which takes two forms. On the one hand, it is the attraction which the good exercises over the will, because of the "impulse which directs the individual will to its source in the will of God". On the other, it is the pain of unattained happiness, and, still more, the sense of guilt. These two elements go to constitute the final experience of faith and the new life it brings. This change is regarded as an effect of a higher power, or as grace, so that it may be expressed in the words, 'The Spirit itself beareth witness with our spirit that we are the children of God'. Now this immediate belief in redemption is the same in all, and it differs only in degree of intensity in the common man and the great religious genius. But it needs the analogous experience of others, and thus in most it is not an original product, but an ideal communicated by others. Hence arises the belief in an actual redeemer or mediator, in whose love for man it sees the love of God for his creatures, and in whose death it sees portrayed that reconciliation of God with man which the individual experiences in the emotion of faith. It is natural that the revelation of divinity contained in such an experience should lead believers to attach to their redeemer a supernatural origin, and that a confusion should sometimes arise between two views of mediation—the one juridical, of the satisfaction of an angry God, the other and true one, ethical, "of the indirect production of the consciousness of

redemption through the revelation and teaching of its original vehicle" (491).

There is one thing more which we must mention, partly because of its suggestiveness, partly because Prof. Pfeiderer is evidently fond of it himself. This is his view of the form of cultus (§ 3, c. 1). He regards worship itself as containing two elements in solution, that of devotion or the endeavour of man after God, and, secondly, the divine gift and effect enjoyed. This is a double point of view which is to be found all through the book. But we are speaking of the *form* of worship, and this Prof. Pfeiderer regards as a drama which is a representation or imitation of the divine life in which men share. Thus sacrifice was originally an invitation to the gods to share in a common feast (537). But it is best illustrated from Christianity. Baptism, with St. Paul, as the appropriation of redemption by a moral death and rebirth, is the imitation of the death and resurrection of Christ (540). The communion again is the dramatisation of redemption, and the history of the rite shows how one or other of the two elements involved in it has been made prominent, namely, the divine act of grace on the one hand and the human response of faith on the other.

Perhaps these remarks may make it clear that it is as a contribution to the speculative theology of Christianity that Prof. Pfeiderer's book is most valuable. It is needless to say that he is perfectly acquainted with all that criticism has done for the subject: this work is, in fact, a dictionary of the results of the science of religion, not only for Christianity but other religions also. He approaches the subject with a profound belief in the truth of the Protestant faith, and perhaps his writing sometimes has the air of a sermon. But there are very few religious questions which he has left unanswered, and we should have liked to quote more of his answers to them. They are all worth studying.

S. ALEXANDER.

Geschichte der Psychologie. Von Dr. HERMANN SIEBECK, Professor der Philosophie an der Universität Basel (1880), Giessen (1884). Erster Theil, Abth. 1: "Die Psychologie vor Aristoteles"; Abth. 2: "Die Psychologie von Aristoteles zu Thomas von Aquino". Gotha: Perthes, 1880, 1884. Pp. xviii, 284; xi, 531.

This book is too full of matter for detailed criticism in present circumstances, but there should at least be no more delay in following up the brief notices already given of its two Parts, as they appeared, with some more adequate account of the kind of instruction which it makes the first systematic attempt to furnish to students of psychological science. In the author's view, Psychology has now reached a critical stage in its course, when

future progress depends not least upon a true understanding of the path, or paths, it has hitherto traversed. It has at last, after whatever devious wanderings and changing fortunes, following upon the early start it got from Aristotle, won recognition as an independent science in the modern sense, and, if it is henceforth to be pursued without more interference from metaphysical speculation than any other science must submit to, its past history cannot be too closely scanned in or out of relation to general philosophy. Of historical consideration applied to psychological notions there has, of course, been as little lack as to philosophical thought in general. Zeller is there, for the ancient world, with his mine of psychological as of other information, as indeed no historian of philosophy, whether on the wider or narrower scale, can avoid making mind the very first of his topics. Neither have some of the more distinguished among recent psychologists neglected the help to be got from historical consideration; W. Volkmann especially, in his comprehensive *Lehrbuch der Psychologie*, having displayed extraordinary research of this kind in illustration of his own scientific positions. But History of Psychology, as a continuous tracing of the whole conception men have struggled from the beginning to form of the mental life they distinguish within their being, as yet there has been none. This is the deficiency which Prof. Siebeck here sets himself to supply.

It is not surprising that in such a first effort he limits the field of view by taking no account of Oriental ideas except in so far as, at different times, they can be proved to have directly influenced Western inquiry; but, with the help of recent investigation of human origins, he does not fail, in a general introduction (pp. 1-29), to begin the story from long before the time of systematic reflection. An "anthropological monism"—which recognises, but leaves aside for philosophical consideration, the transcendent aspect of consciousness, and confines itself to the facts of psychical and psychophysical experience in their positive relations—is, in his view, the outcome of the more developed psychological activity of the present century, prefigured at every earlier stage according as the research was conducted in a scientific spirit, and by nobody so decidedly as by Aristotle. The goal, however, has been approached or reached from an original position of crude (objective) dualism. Man, in the earliest dawn of thought, has everywhere been regarded as a compound of two separable beings, soul and body, one within the other—a conception, as the author well urges (pp. 6, 7), suggested in the natural course of waking-experience, and not only by the intermittent phenomena of dreaming or the supreme crisis of death. The problem, then, is to understand how, when express inquiry began in Ionia some six centuries B.C., it has tended by whatever variety of ways towards the actual result.

The whole exposition will fall into three main divisions, of

which but one is yet completed in the two sections of the present volume. Vol. iii. is reserved for the mass of scientific work that, in this century, has followed the critical investigation of Kant. In vol. ii. the modern movement till the end of last century will be traced from its first beginnings within the Middle Age—in Roger Bacon after Arab initiative towards positive inquiry, in the Nominalists and even in Duns Scotus. So much of mediæval thought being still left over, Thomas is made the final term of the present volume, because in him the Aristotelian doctrine attained its utmost development—in accommodation to the Christian scheme of life which Europe had meanwhile adopted, but still in professed agreement with the conceptions of the master who first gave definite form to psychological science. Within the volume, the special work of the historian is to show how the decisive achievement of one man was prepared by the varied labours of many before him, and affected all later thought about mind for at least 1500 years. In the execution of this task nothing is more noteworthy than the author's width of survey, beyond the conventional lines of treatment. Thus, in the period after Aristotle, great prominence is given to Galen, whose influence, as regards all that concerned the physiological conditions of mental life, superseded Aristotle's own, and remained predominant till Harvey's discovery prepared the way for a truer conception of nervous function; but also at the preliminary stage Prof. Siebeck is able to trace with effect, in what is reported of earliest medical work, the opening of more than one vein of later psychological theory. And of the plan of treatment generally, it may be said that it displays a judicious tempering of regard for mere chronological order with topical consideration. Whether he is dealing with single thinkers of critical importance, like Plato and Aristotle, or with periods in which multitudes of lesser men carried forward the inquiry upon this line or that, the author makes such division of subjects as that effective comparison of the state of psychological knowledge at the different stages is always possible. Mention should also be made of two chapters of special importance (ii. 130-60, 331-42), in which the development of the notions of "Vital Spirit" (Pneuma) and "Consciousness" is continuously set forth at those points of the history when, after long elaboration, they acquired the deeper significance which they were destined to receive and thenceforth retained.

Aristotle, as the central figure, naturally takes the largest space (115 pp., followed by a dozen pages more of summary criticism). Through him Psychology became definitely constituted as a special science on a basis of positive observation; for, though in modern times it has had again to conquer a place among the new divisions of knowledge, nothing is so remarkable as Aristotle's anticipations of the most advanced doctrine as to its scope and method. By comparison with the natural sciences in their positive form, psychology has indeed a history

of exceptional length, and also of progress which, though slow, has been continuous and steady in the main; the nature of its subject-matter explaining at once how the progress has not been faster, and how it was so early begun. Yet, early constituted as it was, the science of mind was by no means the first achievement of human intellect on awaking to reflection. Two centuries of strenuous thought passed before mind was so distinctly conceived, as to become, with Plato, the subject of special inquiry. The aboriginal dualistic conception of soul as a separable entity spread somehow through the body was there, lingering on for future transformation, but at first it was quite submerged by the thought of finding one universal expression for the whole variety of human experience, which had now been taken into view. A "hylozoic monism," without distinction of mind, or even of life, from other change in things, was the earliest express theory of the universe as a whole. Only when, still keeping in view the need for a comprehensive theory, successive thinkers became struck with this or that aspect of being as more important than others, and in particular awoke, however partially, to contemplation on the facts of subjective experience, and were faced by the contradictions of sense and cognition, did the primitive dualism begin to re-assert itself with new fulness of meaning as the true account of human nature; not without help, as already suggested, from the lights afforded by medical practice. All this is worked out, at adequate length and with great clearness of insight, by Prof. Siebeck. When he passes to Plato, through the Sophists and Socrates, in both of whom, to whatever different purpose, the subjective attitude necessary for psychological science is seen to be decisively gained, he finds it necessary to enlarge to an extent only less than afterwards as regards Aristotle. In Plato the rehabilitated dualism of natural fancy becomes metaphysically theorised with an ethical purpose, yet so as to give occasion for a detailed survey of the whole range of mental life such as no one (at least in the West) had ever undertaken before. None of the phases of human activity, theoretic or practical, remain any longer in shadow; and there is left for Aristotle only the task of re-investigation from a more disinterested point of view—in the spirit of science rather than with reference to a moral and religious ideal. How this was carried through we may here best indicate, not by any attempt to examine Prof. Siebeck's admirable exposition of the Aristotelian doctrine or his view of its strength and its shortcomings, but as we follow his account of the later psychology, and note with him the long-protracted efforts made by professed adherents to understand and develop, or by others to modify and supplement, the scientific scheme with which all had henceforth to reckon.

Two general movements are distinguished by the historian within the time while as yet the Greek (or Græco-Roman) mind

had not become dominated—though towards the end it was largely affected—by religious ideas of Oriental, chiefly Hebrew, origin: (1) a complex and highly-diversified movement of “monistic naturalism”, which evoked (2) a sharply marked “spiritualistic reaction”. The first rubric is intended to cover the Stoic and the Epicurean as well as the Peripatetic psychology, with the notable contribution made by Galen and other physiologists engaged in medical practice. Upon this movement as a whole (if it may be called one movement), Prof. Siebeck is constrained at the end to write the word failure; though the observations he records as made within the period, in the series of well-ordered chapters, so brimful of matter, occupying pp. 128-296, may not seldom incline the reader to demur to his depreciatory estimate. It is certainly impossible not to be struck with the advance then made beyond Aristotle, at a multitude of points, towards the accepted positions of later psychological science. If, outside mathematics, there was any progress being made in scientific knowledge, it was mainly in the psychological field. Yet Prof. Siebeck is doubtless justified in asserting that Aristotle's naturalistic successors failed to maintain the inquiry at the level to which he had raised it. When they did effective work, it was by following the lead he had given; and in general they were far from comprehending the profounder (philosophical) ideas that had enabled him to bring mind into line with other subjects of scientific inquiry or even give it scientific treatment in advance of the others. In particular, the conception of man as an organic unity, whereby he was able to give a “real” explanation (in physiological terms) of mental processes and functions—short, it is true, of the highest—while maintaining the independence of their subjective character and reserving their philosophical import, was with difficulty kept by his Peripatetic followers from passing, and often did pass, into an assertion of mere materialism. Epicureans and Stoics, on the other hand, never either of them attained to the height of the conception, but each, in their different ways, secured a real ground of explanation at the sacrifice, generally, of the more distinctive characteristics of mental life.

It is to help in threading his way through the complex tangle of Post-Aristotelian inquiry that Prof. Siebeck finds it expedient, or necessary, to follow out separately, in a preliminary chapter, the history of the notion *Pneuma*; incorporating, in somewhat reduced form, a research he had previously published in the *Zeitschrift für Völkerpsychologie u. Sprachwissenschaft* xii. 4. From being employed originally, in the sense of air or warm vapour, to designate the inner active principle in man regarded as made up of two extended entities, soul and body, one within the other, *Pneuma* comes in course of time to be understood as soul in a sense exclusive of all material attribution and more especially, from the religious point of view, as the element in human nature

setting man in felt relation with Deity. But while soul, under whatever name, is becoming conceived antithetically to body in every respect except in that of real existence, Pneuma tends also to acquire the other import of intermediary between the two opposite terms. The primitive crude dualism thus passes into a trinalism of human nature, not only for Christian teachers and for such metaphysical thinkers as join to supreme concern for an ethical or religious purpose an interest in theoretic explanation. Scientific inquirers also, who start from no definite metaphysical position, are seen to be moved in the like direction of interpreting subjective mental experience, once brought distinctly within ken, as proceeding in connexion with bodily changes through a special agency called Vital or Animal Spirit. To all such, Pneuma, in its original sense of an attenuated matter like air or vapour, offers itself as exactly the mean term that is wanted. Material like the body into which it enters and out of which it passes, it is by its invisibility and rarity akin to whatever can be thought of as opposed to gross material substance and thus to mind or soul subjectively apprehended. Especially will this consideration impress itself upon physiological inquirers, who, as they learn more and more of the detail of vital processes among which respiration stands foremost, have the task of understanding the bodily life in connexion with the mental life so intimately blended with it. It is thus that Galen and his medical fore-runners and successors acquire a peculiar importance in the history of psychological theory. Recognising, as Aristotle did not, the special relation in which the nervous system stands to mind, they elaborated a theory of nerve-action by means of "animal spirits" which, however erroneous from their failure (though distinguishing between arteries and veins) to anticipate Harvey's revolutionary discovery, served to give a truer representation than Aristotle's of the actual physical basis of mental processes and has left abiding traces in common speech. Aristotle himself did not, in his physiology, wholly dispense with the agency of Pneuma in the sense of animal heat; but, besides the physiologists, it was the Stoics who most persistently took advantage of its ambiguous character and, while freely using it as a physical agent wherever called for, sought also to express by means of it not only the being and activity of mind but also the abstract qualities of things through which they become the subject of thought. The notion, in short, is one that, as it is employed, gives the measure, at every stage, of the advance made, on the one hand, in power of abstract conception and, on the other, in determination to keep the realm of properly subjective experience, as it gradually opens up and deepens, in relation with the common ground of physical experience upon which men meet and from which all their inquiry starts. But the final transformation, as Prof. Siebeck shows, which it underwent before it became fitted to serve the purposes of the spiritualistic reaction against naturalism that closed the movement of Pagan

thought in antiquity, as also the wants of upcoming Christianity, was operated through Hebrew influence. While the Hebrew mind had also started with a physical conception of the active principle of human nature, corresponding to the original sense of *Pneuma*, it had always viewed this principle as divine in its origin and as a bond between creature and Creator. It is interesting then to note that in the Alexandrian Jew Philo the two currents of Greek thought and Hebrew feeling first come manifestly together, and, as it happens, Philo uses the word *Pneuma* at different places in such a variety of senses, early and late, that the whole development of the notion can be traced within his writings.

The other notion, of Consciousness, treated apart by the author does not accomplish its development till the next period, when the spiritualistic reaction of the Neo-Platonist school had set in. In the section (pp. 297-357) given to this movement of reversion from Aristotle to Plato, its causes and general character are first set out before the psychological advance, for which the school has not received sufficient credit, is chronicled. The advance, due chiefly to Plotinus, does not consist only in the explicit recognition of what is involved in the notion of Consciousness, but this may be singled out (as by Prof. Siebeck in his special chapter) for particular notice because of its critical importance. That the notion should first have been apprehended in its full import by thinkers who were revolting, under ethical and religious motives, from a naturalism that had passed into materialism and who were ready to sacrifice everything for the restored sense of inwardness, is not surprising. The earlier revulsion of Socrates from a less developed form of naturalism, though similarly motivated, led to no such thoroughgoing assertion of conscious antithesis of mind to nature as was now wrung from the Neo-Platonist puritans. Accordingly Plato and Aristotle, in spite of their developed psychology, have no general word to mark the attitude of the introspective observer, nor do they clearly recognise that synthetic activity which is the note of conscious mind alike for psychologist and philosopher. The fundamental deficiency was not likely to be made good in the following period when no advance, but rather the reverse, was made in general philosophical conception. Nevertheless when the time came for protest against the Post-Aristotelian naturalism, Plotinus and the Neo-Platonists had the benefit of the increase of insight that had meanwhile been gained into the details of psychical experience. In Galen and several of the Stoics as well as Peripatetics, may be noted a distinct approach towards the various expressions in which Plotinus was able at last to characterise effectively the attitude of subjective reflection upon the whole round of experience. The significance of the step lies in the fact that without such a conception of Consciousness as was then first attained (though not therefore immediately or indeed for long afterwards utilised), it is impossible to bring into

view the *phenomenal* opposition of mind and things with which the scientific psychologist has to work.

The final section, devoted to the Christian rendering of ancient psychology, though it ranges over many centuries, from the second to the thirteenth, occupies not much more than 100 pp., for the good reason because there was no scientific advance through all that time to compare with what had been made within two or three centuries before. At first, Christian thought turned mainly upon the question of the nature of the soul, and, under the exigencies of appeal to the popular imagination in regard to a future life, there was a distinct recrudescence of the old materialistic dualism; until Augustin restored the cause of philosophic spiritualism while asserting the duality of men's nature, and fixed the main lines of orthodox animism from that time forth. But Augustin was also, in the more special sense, a psychologist of mark—the one original inquirer in the Patristic period, and his observations (on belief in relation to knowledge, on will and other mental processes), though always having a confessional motive, are such as to deserve all the attention that Prof. Siebeck accords them (pp. 381-97). In the Scholastic period, after an account of some more or less independent tentatives to develop psychological schemes in accordance with Christian needs—which, in as far as they were not independent, took colour from Plato—the historian has to note (in customary fashion) the gradual soaking-in of Aristotelian influence from the 12th to the 13th century. When the saturation of the mediæval mind had become complete, he takes perhaps the most effective way of appreciating the result—in a detailed exposition of the psychological system of Thomas (pp. 448-72).

How far all the various lines of Scholastic activity are brought sufficiently into view cannot be judged till in his next volume Prof. Siebeck traces those other currents within the Middle Age which are the true beginning, so far back, of the Modern movement in psychology. At present some thinkers are passed over, as Anselm and Abælard, who, though they may afterwards be noticed in connexion with the Nominalistic theory which they differently opposed, might have had their places assigned in the general development as thus far indicated. But, however this may be, nothing but thanks is due for the instructive presentation of the Aristotelian psychology in its Christian guise. The large comprehensiveness of the original doctrine, which brought mind into relation with life in general, was not lost upon such an intellect as that of Thomas; giving his psychological thought that disposition which enables the revived Scholasticism of these days—revived or at least re-awakened to militancy—still to present some kind of front to the most recent advances of science. Nor had the Christian discipline failed to direct attention to aspects of mental life which Aristotle had overlooked; so that now they received, upon Aristotelian lines, a systematic consideration as never before.

The result is a body of psychological doctrine filled out and articulated to a hitherto unexampled degree. Yet it wants the vital spark that quickened the original Aristotelian system. Only at the higher stages of mental development had Aristotle been unable to carry through his scientific conception and been fain to have recourse to the external agency of *νοῦς χωριστός*; but just this foreign element was laid hold of by Thomas and made the means of transforming the whole doctrine in a dualistic sense. It was no longer a dualism of the old crude sort. The abstract thinking of Plato and of Augustin had done its work, and it was impossible any more to represent conscious mind as extended in an extended body. But equally impossible was it to understand how with body taken as absolutely extended conscious mind can be in such relations as it is—affected through body in sense, acting through it in volition, apprehending or, as it were, appropriating it in cognition. There was need, in short, for a radical change of base, if Aristotle's monistic thought was to be carried through or not abandoned altogether. In the light of the general conception of consciousness to which Aristotle had not attained, it had to become understood that the external world of matter, inclusive of the specially-organised body, in relation with which the psychical life proceeds, is not there otherwise than phenomenally; so that nothing hinders the assumption throughout of those determinable conditions of mental process and function whereon the possibility of psychology as science depends. This insight has been gradually acquired during later centuries, but that it was already within the Middle Age beginning to be rendered attainable is, we have seen, recognised by Prof. Siebeck in leaving over to the next Part to come of his work more than one strain of inquiry that accompanied or closely followed upon the scholastic construction of Aristotle's doctrines to which the Catholic Church bound itself. His readers cannot but look with eagerness for the continuation of the History, and wish him strength for the completion of his arduous task.

EDITOR.

VI.--NEW BOOKS.

[These Notes (by various hands) do not exclude Critical Notices later on.]

Types of Ethical Theory. By JAMES MARTINEAU, D.D., LL.D., Principal of Manchester New College, London. 2 Vols. Oxford: Clarendon Press, 1885. Pp. xxiv., 479; viii., 539.

Criticism of this work, now just added to the other important contributions to ethical theory that have marked the last decade, will, it is hoped, not be deferred beyond the next No. It consists more largely than any of those other works of direct historical appreciation, but includes also (ii. 1-279) the systematic exposition of the author's own ethical doctrine. To this he gives the name "Idiopsychological Ethics," and the remainder of vol. ii. is occupied with criticism of "Hetero-psychological Theories" (divided into "Hedonist," "Dianoetic," "Æsthetic"). Before passing thus to "Psychological Ethics," he devotes vol. i. to "Unpsychological Theories," distinguished as (1) "Metaphysical" (including the "Transcendental" theory of Plato and the "Immanent" theories of Descartes, Malebranche and Spinoza), (2) "Physical" (typified in Comte); the whole scheme of treatment being first explained and justified in a short Introduction (pp. 1-22). The historical consideration in vol. i., it should be noted, goes a good way back from the special subject of ethics to general philosophy. The long chapter on Spinoza (pp. 234-369) is not a reproduction or abridgment of the author's monograph on that philosopher, "but a fresh statement . . . marked . . . only by such shifting of emphasis as the special exigency of an ethical treatise demanded". The Preface (vii.-xvii.) contains a singularly interesting account of the author's own philosophical development, as he passed from a state of "willing captivity" to Locke, Hartley &c. to his present position—described at the end of the work as one of such affinity to Kant, at least in respect of ethical theory, that Kant (by name) figures hardly at all in his pages. The generous terms in which J. S. Mill's personal influence is recognised are specially to be remarked. It is the author's design, if strength still remains to him in "the evening twilight of life" (as all must hope it will), to follow up his present work with another devoted to the theory of Religion, with which, in his view, Ethics is organically connected.

Dictionary of National Biography. Edited by LESLIE STEPHEN. Vol. I. (Abbadie-Anne.) London: Smith, Elder, 1885. Pp. vi., 474.

The editor's name is a sufficient guarantee that in this work of national importance due place will be accorded to philosophical writers. In the present volume, with which the great enterprise is in all respects most worthily inaugurated, the philosophical names are few and not of much account: besides Alcuin and Alexander of Hales (treated by Prof. Adamson), with one or two other Scholastics, only Abercrombie and Aldrich falling within it. It is intended to issue successive volumes at intervals of three months, and the whole work will, it is confidently expected, be completed in about fifty volumes.

Ethica: or The Ethics of Reason. By SCOTUS NOVATICUS, Author of *Metaphysica Nova et Vetusta*. London: Williams & Norgate, 1885. Pp. viii., 195.

This work is the complement of the author's previous essay reviewed in MIND XXXVI., 574-9, and will receive, in turn, the like consideration.

Basing upon his former results he now endeavours "to show that Will, containing in itself kinetic initiation and form of end, is metaphysically free and supersensible: that, while the aim of all science is the filling of the *a priori* categories, thereby to get for self-consciousness the idea of each thing as a *harmonia rei*, and ultimately as part of a *harmonia rerum*; so, in the ethical sphere, the aim is such a *harmonia morum* as shall complete the self-realisation of man".

Of Philosophy in the Poets. By JAMES HUTCHISON STIRLING, LL.D.
Edinburgh: Oliver & Boyd, 1885. Pp. 46.

The Community of Property: Nationalisation of Land. By the Same. Same Publishers. Pp. 40.

The first of these pieces was delivered as opening lecture to the Edinburgh University Philosophical Society in its present session, and is published by request. The author, assuming the alliance between poetry and philosophy, confines his remarks to English poets, and, dividing them into three periods, again limits himself to the first two, ending respectively with Milton and Cowper. Starting from Cowper he glances lightly at Beattie, Gray, Collins, Goldsmith, Armstrong, Akenside, Thomson, Young, Pope and Dryden in retrogression, and then in the first period, after a word on Chaucer and Spenser, enlarges upon Milton and Shakespeare. Milton (whom he regards as of all poets the most musical) gives him occasion for a very striking digression on the question of free-will (pp. 26-34). Shakespeare he declares, and after specimens given of "philosophical pregnancies" re-declares, "the vastest subject that ever took into himself the whole huge object".

The other piece, before passing into an economic argument against Mr. George, includes some pages of interesting reference to the philosophical conceptions of property, chiefly those of Aristotle and of Hegel, whom Dr. Stirling sets together above all other writers on politics or practical philosophy.

The Veil of Isis: A Series of Essays on Idealism. By THOS. E. WEBB, LL.D., sometime Fellow of Trinity College and Professor of Moral Philosophy, now Regius Professor of Laws and Public Orator, in the University of Dublin. Dublin: Hodges, Figgis; London: Longmans, 1885. Pp. xiii., 365.

In this sketch of the history of modern speculation with reference to the external world, the author develops further the idea of his book on *The Intellectualism of Locke*. Locke's "intellectualism" was found especially in the distinction of external and internal sense, in the "ideas of relation" called by Locke "the creatures and inventions of the understanding," and in his view of necessary and demonstrative truth. Dr. Webb now goes on to show that there is an element of intellectualism also in Hume, in Berkeley and in Bacon. Bacon's "anticipation of the mind" and the "common principles" and "common notions" of his "first philosophy" are a foreshadowing of the Kantian doctrine; the "transcendents" or "common principles" are "the categories in an embryo state". The "notions" of Berkeley are an intellectual element that has not been sufficiently recognised in his empirical idealism. Hume's *Treatise* is an anticipation at least in outline of everything in Kant's *Kritik*. The chief difference between Kant and Hume was that Hume "employed the simple language of ordinary men" while Kant "invented an artificial language for the schools". Kant misunderstood Hume as Leibniz misrepresented Locke; for, although Hume rejected Locke's theory of the origin of ideas (in laying it down that "reason can never give rise to any original idea" such as

that of substance or cause), he accepted Locke's theory of knowledge (in recognising "ideas of relation" and especially in his view of mathematical proof). In his classification of relations Hume anticipated the deduction of the categories. "But if Hume was the Copernicus of the new way of investigating the phenomena of the mind, Kant must be regarded as its Newton." The final result of philosophical development is, that absolute certainty is unattainable; the image of the veiled Isis described by Plutarch still remains the symbol of the reality of things; we must therefore act on probabilities. This conclusion had already been reached by Hume when he said that his philosophical scepticism disappeared in practical life. Here there is agreement with the school of common-sense. Reid's insistence on the necessity of acting according to the natural view of the reality of objects was therefore superfluous as against Hume. On the speculative side the "natural realism" of Hamilton, equally with that of Reid, completely fails as an attempt to answer either Hume or Berkeley. Hume, while anticipating the philosophy of common-sense (and at the same time Kant's doctrine of the practical reason), carried out his speculative philosophy to the most consistent idealism possible. In saying that "the idea of existence is the very same with the idea of what we conceive to be existent," he unconsciously reproduces the conclusion of Parmenides and anticipates Hegel.

Social History of the Races of Mankind. First Division: 'Nigritians'. By A. FEATHERMAN. London: Trübner, 1885. Pp. xxvi., 800.

The fifth, but first-published, division ('Arameans') of this extensive work, was noticed in *MIND* XXV., 143, just after its appearance in 1881. Now that the first has followed, the other four divisions of the author's scheme ('Melanesians,' 'Maranonians,' 'Turaniens,' 'Iranians') may be expected at shorter intervals, for he states that he has six other volumes ready for the press and that the whole work may thus be completed within three or four years. The industry shown by the author in collating the mass of literature bearing upon the seventy or more tribes which he distinguishes within the Nigritian stock—"the most ancient of all the types of mankind," as he considers it—is truly astonishing. His account of the physical, mental and social characteristics of each is set out according to the same scheme as he had employed in his former volume, but he gives the scheme now, in his present preface, the more explicit statement which before was wanting. Comparison is also aided by a very useful index. The author wishes his work in its entirety to be "considered as a manual of Sociology—a science as yet non-existent, but which, it is hoped, some man of genius will now be able to create with the elements here systematically arranged and placed at his disposal for judicious elaboration". Here he appears to betray ignorance of the constructive work done by others of late years; nor, it must be added, are his sources of information, as to facts, always of as recent date as they might be.

Phases of Opinion and Experience during a long Life. An Autobiography by CHARLES BRAY, Author of *The Philosophy of Necessity*, &c. London: Longmans, Green. Pp. 284, ix.

The author of *The Philosophy of Necessity* (1841, 2nd ed. 1861) died on the 5th October last at the age of 73. Three weeks before his death, and not expecting to survive above a month, he dictated a few sentences of striking "Conclusion" to these autobiographical chapters, which he had lying by him in printed form since 1882. An Appendix (pp. 207-84) is made up of reflections and quotations on the topics that had interested him through life, jotted down from the beginning of 1884. The book

is a curious medley, but contains passages that deserve reading for their honesty of thought and straightforward expression, and gives throughout a picture of fine cheery stoicism and beneficent helpfulness in the man. An enthusiastic phrenologist, while he dabbled in matters of philosophy, he was not able, as he tells us at p. 24, to think well of this Journal; finding it (as some others do not) too "purely metaphysical"!

Notes on Inductive Logic. (Book I.) Being an Introduction to Mill's *System of Logic*. By THOMAS WOODHOUSE LEVIN, M.A., &c. Cambridge: Deighton, Bell. Pp. 150.

Twelve Lectures in two Parts, following on an introductory Historical Retrospect (pp. 1-19). Part i. gives "explanations of notions and terms which were once specialised technicalities of logical science but which are now so interwoven with current modes of thought and expression that a familiarity with their meaning is an indispensable part of all literary training"; also some account of Syllogism. In Part ii. the author seeks by a "more accurate definition of the sphere of Causal Induction" to remove "the ambiguities and inconsistencies" attaching to Mill's otherwise "profound and exhaustive treatment" of the Experimental Methods of Induction, which "constitute the rational procedure of all Experience and the Logic of Facts". In another publication to follow, he will deal with the causes and remedies of Intellectual Error, expanding the topic commonly discussed as Fallacies in the logical books.

Sympneumata or Evolutionary Forces now active in Man. Edited by LAURENCE OLIPHANT. Edinburgh and London: Blackwood & Sons, 1885. Pp. xiv., 288.

Man: Fragments of Forgotten History. By Two Chelas in the Theosophical Society. London: Reeves & Turner, 1885. Pp. xxviii., 165.

These two works are of a class hardly to be reckoned with in a journal of such humble pretensions as MIND. In the first, Mr. Oliphant, "on the slope of Mount Carmel," takes down from the lips of an unnamed seer (or seeress) a revelation of the past and future of the race which goes far beyond any instruction that so-called history and science have been supposed to yield; and takes it down so faithfully withal that he has not in general thought it necessary to give literary form to the curiously perplexed and cumbrous language of the deliverances. In the other volume, the two "Chelas" (or seekers after "Esoteric Doctrine," one of them Eastern and the other a Western—with the more florid fancy of the two) take down from their "Master" some better-written fragments of a story which makes the same claim to be the absolute and deepest truth about man, though it is not the same story. Not that the two revelations have not their points of contact: both, for example, have it that man was originally bisexual (though again they differ in their account of how the divarication came to pass). *Sympneumata* is indeed mainly concerned with the problem of the recovery of the lost "biunity"; each human defective having now to find his or her sympneumatic complement. When these disclosers of a verity not to be attained by the methods that pass as scientific can agree among themselves, they may have a stronger claim on the attention of those whose "science" certainly leaves them with plenty of ignorance. Both books have meanwhile the merit of indicating how great that ignorance may be.

Philosophy and Faith: A Plea for Agnostic Belief. By JAMES M. HODGSON, D.Sc., Professor of Apologetics, Lancashire Independent College, Manchester. London: Simpkin, Marshall, 1885. Pp. 31.

"The aim of this paper is, first, to inquire to what extent the contents

and objects of Religious Faith do or do not lie 'within the boundaries of possible knowledge,' and do or do not present 'the indispensable conditions of knowledge'; and, *second*, to indicate the impossibility of surrendering that 'unqualified assurance' in which we revel respecting them, in spite of its condemnation by Scientists and Rational Philosophers as 'a belief void of justification'."

Man's Destiny viewed in the Light of his Origin. By JOHN FISKE. London : Macmillan, 1884. Pp. 121.

A summary of the author's view of evolution, ending with an expression of belief in the immortality of the soul, not as a scientifically demonstrable truth, but as a faith without which "the reasonableness of the universe" cannot "maintain its ground". Evolution in man will henceforth restrict itself to psychical evolution; hence no new species higher than man can be produced. The struggle for existence will give place to "direct adaptation". Man's life, beginning as life in the family, which was a consequence of the prolongation of infancy through increased psychical development, has gradually advanced from the predatory to the industrial stage, and will have reached its highest form when "the pacific principle of federalism" shall "reign supreme over all the earth".

Prolegomena of the History of Religions. By ALBERT RÉVILLE, D.D., Professor in the Collège de France, Paris, and Hibbert Lecturer for 1884. Translated from the French by A. S. SQUIRE. With an Introduction by Professor F. MAX MÜLLER. London : Williams & Norgate, 1884. Pp. x., 230.

M. Réville's *Prolegomena* (the reproduction in a condensed form of lectures given at the Collège de France) are introduced to English readers by Prof. Max Müller as an example of the scientific study of religion on its only possible foundation, that of exact scholarship. The anthropologists will, of course, maintain that their methods are as exact and scientific as those of the pure philologists; but whatever view we may take of method, there is no doubt as to the importance of M. Réville's book for all who occupy themselves with the science of religion. In Part i. the author's chief object is to remove from the path of research the obstacles that various *a priori* theories (philosophical and theological) of the origin of religion seem to him to oppose to scientific treatment. He discusses in Part ii. the common elements of the chief religions ("The Myth," "The Symbol and the Rite," "The Sacrifice"—cc. i.-iii.), the relations of "The Priesthood" and "Prophetism" (cc. iv.-v.), the nature of "Religious Authority" and "Theology" (cc. vi.-vii.), and finally the mutual influence of religion on the one hand, and philosophy, morality, art, civilisation and science on the other (cc. viii.-xii.). Religion is, for the author, the attempt of the human mind to arrive at a synthesis including itself and the *non-ego* regarded as in its nature "spiritual," and as "mysterious". Hence, however much religion may influence and be influenced by morality, the two never become identical; it differs at the same time from philosophy in being of emotional, not intellectual, origin. Beginning as a rude attempt at a synthesis of man and nature, springing from an emotional need, it had at first for its essential element sacrifice, by which union with the divinity was to be realised; in its final form it is the aspiration towards a complete ideal.

The Wish to Believe. A Discussion concerning the Temper of Mind in which a Reasonable Man should undertake Religious Inquiry. By WILFRID WARD. London : Kegan Paul, Trench, 1885. Pp. 225.

In these dialogues a theory which the author thinks will appear at first somewhat paradoxical, is expounded and defended by "Father Walton," one of two Catholic spokesmen who may be supposed to represent his views. This theory is briefly as follows: There are three attitudes of mind in religious inquiry—the "superstitious attitude" of those who believe too lightly, the "law-court attitude" and the "religious attitude". The superstitious man has not really "the wish to believe" but only the wish to indulge himself with imagining that some opinion which he would like to be true may be really true; he has no desire to submit his belief to the test of objective verification. The perfectly impartial man to whose emotions a religion makes no appeal is as much disqualified for religious inquiry as the superstitious man, but for a different reason. No one can bring all his critical power to bear on the evidence of the truth of any statement who has not either a strong practical or speculative interest in the result of the investigation. The scientific man, for example, who thinks he has discovered some new truth and has a strong desire that his opinion may turn out right, just for that reason examines the evidence with greater care; similarly, when an event is felt to be of great practical importance, men "dare not lightly believe what they so much wish to be true". The proper attitude of mind for undertaking religious inquiry is therefore that of the "religious-minded man" who feels that a true belief is of practical importance to him, and who is attracted emotionally by a system that presents itself as capable of harmonising the whole of his life. "Darlington," the agnostic of the dialogues, is led to see the force of these considerations, and, although not brought to the Catholic position, does not contest the application that is intended to be made of them to the proof of this position.

Comparative Physiology and Psychology. A Discussion of the Evolution and Relations of the Mind and Body of Man and Animals. By S. V. CLEVENGER, M.D., Special Pathologist, County Insane Asylum, Chicago, &c. Chicago: Jansen, McClurg, 1885. Pp. 247.

The present work consists of expositions of ideas already put forth in medical and scientific journals, and is preliminary to a work dealing more minutely with the psychology of man. The author has in view the scientific treatment of insanity. He writes entirely from the physiological point of view and does not perceive its limitations; but if allowance be made for this, much will be found in his book that has value. The leading ideas have already appeared in biological speculation, but seem to be quite original so far as the author is concerned. He takes "hunger" to be the fundamental mode of feeling: this feeling is the subjective side of chemical affinity; when unsatisfied it is pain, when satisfied pleasure; all activity of organisms is (directly or indirectly) due to desire of food or is overflow of energy after food has been taken; reproduction is at first merely a form of nutrition and must be explained all along by reference to nutritive processes. The author's psychology is worked out with much consistency from this starting-point, and he is able to make many good observations incidentally. The evolution of life he views as determined entirely from outside; but more use is made of the idea of "impacts," "stresses" and "strains" on the organism than of the idea of survival of the fittest. This is an indication of a partial return, such as may be perceived in other recent biological writing, to Lamarckian modes of thought. An interesting suggestion that some anatomical peculiarities which are at present disadvantageous to man are due to his imperfect adaptation to the upright position, is partly worked out in c. 3.

The Literary Remains of the late HENRY JAMES. Edited with an Introduction by WILLIAM JAMES. Boston: Osgood, 1885. Pp. 471.

Prof. W. James has here added to the published works of his father, who died two years ago—(1) an autobiographic fragment written, as of and by another person, under the title "Immortal Life" (pp. 132-91); (2) "Spiritual Creation, and the necessary Implication of Nature in it: An Essay towards ascertaining the rôle of Evil in Divine Housekeeping," also unfinished (pp. 195-418). He further reprints (3) "Some Personal Recollections of Carlyle" (pp. 421-68), a very notable piece that appeared as a magazine-article on Carlyle's death in 1881; and, besides a "Bibliography," gives in an "Introduction" (pp. 7-119) a view of his father's main ideas, illustrated by a connected series of extracts from the previous works in which the ardent mystic had again and again struggled to find utterance for them. There is astonishing power of expression in many of these, and the thought is weighty with philosophical implications which the editor has brought out with great skill.

The Religious Aspect of Philosophy. A Critique of the Bases of Conduct and of Faith. By JOSIAH ROYCE, Ph.D., Instructor in Philosophy in Harvard College. Boston: Houghton, Mifflin, 1885. Pp. xix., 484.

Dr. Royce, who in Nos. XXIII. and XXV. gave the readers of *MIND* specimens of his philosophical style, marks out here the basis of a system of philosophy, while applying its principles to religious problems which first drove him to speculative inquiry. The book appeals, in different parts of it, both to the general reader and to the special student, and is written throughout with a very notable freshness and vigour. It is reserved for more detailed notice later on. The author's general attitude is indicated in the following sentences:—"While on the one hand he desires to trouble nobody with fruitless and blank negations, and while his aim is therefore on the whole a positive aim, yet on the other hand, as he has no present connexion with any visible religious body, and no sort of desire for any such connexion, he cannot be expected to write an apology for a popular creed. . . . As to the relation of this book to what is called modern doubt, it is a relation neither of blind obedience nor of unsympathetic rejection. The doctrine of philosophic idealism here propounded is not what in these days is popularly called Agnosticism. Yet doubting everything is once for all a necessary element in the organism of philosophic reflection. What is here dwelt upon over and over again is, however, the consideration that the doubts of our time are not to be apologetically 'refuted' in the old-fashioned sense, but that taken just as they are, fully and cordially received, they are upon analysis found to contain and imply a positive and important religious creed, bearing both upon conduct and upon reality".

Le nouveau Spiritualisme. Par E. VACHEROT, Membre de l'Institut. Paris: Hachette, 1884. Pp. xv., 400.

The problem of philosophy is still, for M. Vacherot, the ontological problem which Kant excluded from the field of speculative reason as insoluble. In Part i. (pp. 1-148) he gives a historical sketch of the attempts that have been made since Kant to solve this problem. The theoretical discussion follows in Part ii. (pp. 149-334). In the concluding Part (pp. 335-400) the ideas of "fatal" and of "final" evolution are combined into one doctrine from the point of view there attained. "The school of speculation" (Fichte, Schelling, Hegel) tried to solve the problem of the noumenon by the dialectical method; "the school of reason" (the Eclectics) and "the school of tradition" by the assumption of principles

from theology and common sense ; but it is not to be rightly solved except by "the school of consciousness". "The new spiritualism" differs from the older spiritualism of the Eclectics in taking up into itself the results of science and in rejecting Cousin's doctrine of "the impersonal reason," which, as M. Vacherot points out, was merely common sense placed as an authority over science and philosophy. That which is common to the new and the old spiritualism as distinguished both from materialism and idealism is the "psychological method". Idealism and materialism, in their search for real causes, arrive at principles that have similar defects : materialism tries to explain things by their simplest elements ; idealism by the last results of abstraction. The philosophers who have come nearest to the true solution are Aristotle and Leibniz : Aristotle in the doctrine that reality is to be sought not in the bare abstract possibility of "matter" but in the concrete "act" which expresses itself in consciousness ; Leibniz in the doctrine that the inner nature of things consists in determination by final and not by mechanical causes. Modern science has reduced matter to force, and as seen from within, that is, from the point of view of consciousness, which reveals to us the nature of all reality in revealing to us our own nature, force becomes a free cause seeking an end ; matter therefore is to be explained as "the *minimum* of spirit," not spirit as "the *maximum* of matter". In order to get rid of the artificiality of the systems of Leibniz and Aristotle, we must add to these conceptions Spinoza's conception of unity. But the doctrine of "divine immanence" thus arrived at is to be discriminated from Spinoza's pantheism as well as from the doctrine of "divine transcendence" ; God creates other free beings from which, as from the world, he is "distinct" but not "separate". The author takes occasion to explain more fully a part of his doctrine that has sometimes been misunderstood and that he admits to be open to objection at least as regards the form. Rejecting all the pretended demonstrations that perfection implies existence, he holds on the contrary that perfection—conformity to an ideal—is incompatible with real existence ; it is the conception of infinity, the opposite of that of perfection, which implies reality : the world is infinite, God is the supreme ideal. He now explains that the idea of God is not to be confounded with the abstract idea of perfection, which is merely the conception of something perfect in its kind. The idea of the absolute—the true idea of God—implying the maximum of reality cannot be submitted to the limitations of any conception of the perfect (in the category of quality) any more than it can be identified with the conception of the immeasurable (in the category of quantity). The essential constituents of our idea of the absolute are the "free causation" and "finality" which we find in ourselves ; these in the absolute become "creative power" and "providence". The process which to science, looking at it from outside, is "fatal evolution," seen from within, from the point of view of consciousness, is a "final evolution" towards the ideal good.

Leçons de Philosophie. Par ÉLIE RABIER, Professeur de Philosophie au Lycée Charlemagne, Membre du Conseil supérieur de l'Instruction publique. I. *Psychologie.* Paris : Hachette, 1884. Pp. 676.

This is a book in which may be studied to great advantage the effect of later scientific work upon an open-minded representative of the traditional spiritualism of the French school. By Philosophy he understands, in combination, "the psychological" and the "metaphysical sciences" which remain after the widest enumeration of the objective sciences ("cosmological" or natural and "zoological" or moral) ; and, contending, according to the later French tradition, for the priority of psychological over ontological

consideration in the philosophical field, he works out the doctrine of Psychology in his present first volume. With Psychology itself, Logic and Ethic are classed as the specially "psychological sciences," and we are left to suppose that in the author's scheme of publication these two "regulative" doctrines will follow next, before he passes to Metaphysic proper (disposed in the old threefold fashion of Rational Cosmology, Psychology and Theology); no account, apparently, being taken of the right of Æsthetic to rank on a level with Logic and Ethic. The "Psychology," filling all but 20 introductory pp. in the volume, is set out in five books of "General Problems," "Intelligence," "Sensibility," "Will," "Special Problems". Of these "Intelligence" (with Sense in its representative aspect) occupies considerably more than half the whole volume; included as there is, in the treatment of the "properly intellectual functions" of elaborate thought, all that kind of discussion as to fundamental principles which it is now more usual, and surely more satisfactory, to relegate from Psychology to philosophical 'Theory of Knowledge'. Here, however, as elsewhere, while standing in the main by the accepted (or, as they have been called, official) tenets of the French school, the author shows no little receptiveness to the ideas of opposed thinkers, especially English, or at least is always prepared with a reasoned judgment on their counter positions. The result is a work full of instruction, disposed with good method. The books on Feeling and Will, as they are more perfunctory, are also of less scientific value. Under "General Problems" (pp. 21-88) falls, besides the question of psychological method, the discussion of the notion of Consciousness. "Special Problems" (pp. 571-672) include the topics of Habit, Language, Beauty and Art (by way of Æsthetic, otherwise shelved), Sleep, &c., Mind in Animals.

Études familières de Psychologie et de Morale. Par FRANCISQUE BOUILLIER, Membre de l'Institut. Paris: Hachette, 1884. Pp. iii., 315.

Five studies, popular in style but containing many interesting psychological observations. The general results of the first three are—that since dreams take their character in part from past thoughts and actions there is a kind of "moral responsibility in dreams," hence an effort to remember dreams on waking may be useful as a means of moral culture (i.); that "the sentiments of the living with regard to the dead" including the "involuntary admiration for suicide" may all be traced to love of life (ii.); that sympathy decreases with distance in time and space and is therefore favoured by increased facility of communication, but has always existed in man and as an emotion remains constant (iii.). An interesting feature of the fourth study ("The Compensations in Human Life") is the account of three optimistic moralists, Robinet (praised by Hegel in his *History of Philosophy*), Antoine de la Salle and Azais, the second of whom would seem to have been undeservedly neglected by historians. In the last study ("On Time in Common Speech") expressions in which time is personified and illusions of time are discussed.

Études psychologiques. Par IVAN SETCHÉNOFF. Traduites du Russe par VICTOR DERÉLY. Avec une Introduction de M. G. WYROUBOFF. Paris: Reinwald, 1884. Pp. xv., 274.

This translation of the work of a Russian psychologist is introduced to French readers by M. Wyrouboff as a consistent attempt to treat psychology in what he regards as the only scientific way, that is, as "cerebral physiology". The author begins by a study of muscular movements, voluntary and involuntary. Having reduced all movement to reflex

action modified by the influence of 'inhibitory' and 'augmenting' centres, he applies this result of his analysis of the "known" terms of mental processes (that is, those that are known on their objective side) to the "unknown" terms (that is, the conscious part of the process). He finds that consciousness as well as movement can be reduced to the type of reflex action. The two chapters on "The Reflex Actions of the Brain" (Pt. i.) are followed by three containing "General Notions on the Study of Psychology" (Pt. ii.): of these the first two deal with the question of method; the third is a sketch of the "History of Psychical Evolution" (in the individual). The criticism on his work is made to some extent by the author himself when he admits that there are many "lacunæ" in his system, and that it is in great part hypothetical; this criticism is carried further by M. Wyrouboff. Although it is applied to the results only and not to the method, the author's admission that the "cerebral physiologist" must seek his facts in subjective psychology may be taken as a concession on this point also.

Les Maladies de la Personnalité. Par TH. RIBOT, Directeur de la *Revue Philosophique*. Paris: F. Alcan, 1885. Pp. 174.

M. Ribot here continues his studies in mental pathology with the aim of throwing light on normal psychological processes. From Memory and Will as thus treated before (see *MIND* XXIV., 590-2, XXXIII., 141-4), he now passes to the central problem of the consciousness of Personality; stating the psychological question in an Introduction (pp. 1-21); following his pathological inquiry through four chapters—"Organic Disturbances," "Emotional Disturbances," "Intellectual Disturbances," "Dissolution of Personality"; and summing up results in a Conclusion (pp. 151-71). Critical Notice will follow.

Les Arguments de Zénon d'Elée contre le Mouvement. Par CHARLES DUNAN, Docteur ès Lettres, Professeur de Philosophie au Collège Stanislas. Paris: F. Alcan, 1884. Pp. 44.

After pointing out the historical importance of Zeno, the author discusses his four arguments against motion as given by Aristotle, taking them in an order which is the reverse of Aristotle's, under the designations of "the Stadium," "the Arrow," "Achilles" and "Dichotomy". The first he dismisses briefly as being of no value. He gives some space to the refutation of "the Arrow" and "Achilles"; the exact meaning of the text of Aristotle, the explanations of the commentators and the views of others who have attempted a refutation of these arguments or have regarded them as irrefutable being also discussed. By the argument of "Dichotomy" (which he states as follows, partly translating from Aristotle and partly giving his own interpretation:—"There is no motion, because the moving body must pass over the half of its course before reaching the end," and similarly if we divide the first half of the whole space, and the half of this, and so on continually), he holds that Zeno really proved the impossibility of motion as a thing-in-itself. The arguments of "Achilles" and "the Arrow" are intended to show that, the existence of motion as representation and of time and space as real things being respectively granted, motion still cannot be rationally conceived; but they do not prove this. Motion as a phenomenon is not in contradiction with itself; the difficulty begins when we consider it as a noumenon. It was in the Kantian criticism that the problem of "Dichotomy" first found its solution, *viz.*, that motion, being simply a representation given in the forms of space and time, cannot be treated as absolute.

Histoire des Sciences et des Savants depuis deux Siècles, précédée et suivie d'autres Études sur des Sujets scientifiques, en particulier sur l'Hérédité et la Sélection dans l'Espèce humaine. Par ALPHONSE DE CANDOLLE, Associé étranger de l'Académie des Sciences de Paris, &c. Deuxième Edition considérablement augmentée. Genève-Bâle: Georg, 1885. Pp. xvi., 594.

This new edition of the *Histoire des Sciences et des Savants*, appearing after an interval of twelve years from the publication of the first, is not only augmented but entirely rearranged. An introduction written in advocacy of the doctrine of natural selection is now suppressed as being no longer necessary. Instead of this the chapters on Observation and on the Statistical Method have been collected and placed at the beginning of the book. All other alterations consist in additions. Of these the most important is Ch. iv., Section 2,—“New Researches on Heredity” (pp. 54-103). The author points out a difference between his choice of material for these researches and Mr. Galton's in *English Men of Science*: he has selected not eminent men but the persons he has known best, without any reference to their merit or capacity. He starts with a scheme of classification of physical, intellectual and moral characteristics in which a name is given to each virtue and defect; all “average characters” and “acquired characters” being eliminated as of no value for determining the special influence of heredity. The characters of any individual and those of other members of his family (ancestors and collateral relations) being known, the percentage of characters inherited and of variations may be estimated: with more material, statistical grounds for attributing characters to atavism might be given; but such attribution at present remains conjectural. By this method the author holds that the existence of heredity of special characters (as distinguished from common racial characters) is established, and even that an estimate may be made by its aid of the numerical proportion of the characters inherited from each parent. He has applied it to members of his own family (three generations) and to 31 other persons belonging to 16 different families (two generations). In a later part of the book he makes use of it to draw a comparison between his father (A.-P. de Candolle) and three other eminent naturalists, Cuvier, Linnæus and Darwin. He finds that in the case of De Candolle and Cuvier their extraordinary memory was a variation; the power of generalisation seems to have been a variation in every case: there is always, however, the possibility of atavism. All the author's researches, these later ones as well as the earlier ones, have been carried out not so much with a view to determining the origin of individual characters of men of science as with a view to determining the influence of the social conditions of different countries; and this he takes to be the essential distinction of his aim from Mr. Galton's. For this purpose, though not for determining as accurately as possible the relative influence of “nature” and “nurture,” he believes his own earlier method (carried out further in the present edition), of making statistical tables of the nominations of foreign members of learned societies during as long a period as possible, to be the best. The general result of his earlier and later researches is to show that scientific success is the result of a combination of intellectual and moral qualities obtained by inheritance and variation, together with favourable external circumstances (education, example, influence of the social environment), rather than of a special faculty. He is not disposed to attach much importance to those innate tastes for a special branch of science on which many of Mr. Galton's correspondents insist. At the same time the facts seem to him to prove that there is usually in men of science a hereditary bias either to the mathematical and physical or to the natural history sciences; partial

heredity of a special faculty is also found to exist in the case of mathematics as of music. For success in the arts and in active life heredity is more important than the influences that follow; for success in a scientific career the influences that follow are the more important (p. 530). The inheritance of a complex civilisation seems to be of more importance for the successful cultivation of the moral sciences than of the physical and natural history sciences; small countries have not the advantage in moral science that they seem to have in natural science. Several new paragraphs are added relating to the influence of instruction on originality. Taking Mr. Galton's researches as his evidence, the author finds that men of science have got more advantage from freedom and leisure than from systematic instruction, and that "diversity of schools," such as exists in England, is favourable to originality. He discusses the influence of the diffused interest in science which results from the action of "nomad societies": this he thinks on the whole good. "The slow and costly actions of governments are not worth the zealous and disinterested impulse of the public." Above all things a social atmosphere favourable to scientific studies is required in order that progress may be made.

La Dottrina Kantiana dell' A Priori. Studio critico del Dott. GIOVANNI CESCA, Prof. di Filosofia nel R. Liceo di Acireale. Verona, Padova: Drucker e Tedeschi, 1885. Pp. 279.

L'Origine del Principio di Causalità. By the Same. Same Publishers, 1885. Pp. 67.

After discussing the chief positions of the *Kritik* and the arguments of Kantians and their opponents, the author, in the first of these works, concludes that the only real "*a priori* form" is the synthetic unity of apperception; this is found in the process of "integration and differentiation of states of consciousness" by which each state is "associated instantaneously and automatically with its class, order and variety". The forms of intuition are *a priori* for the individual but not for the race; relations between states of consciousness are not imposed by the mind on material given in sensibility, but are derived from real relations between objects; there is no absolute opposition between sensibility and intellect, and therefore no need for a third faculty of imagination to mediate between them. The question of the *a priori* or *a posteriori* character of form was treated by Kant entirely as one of logic; his neglect of psychology prevented him from solving the question of origin which comes before that of validity. There are no synthetic judgments *a priori*; mathematical axioms have their origin in experience, as is shown both otherwise and by the possibility of non-Euclidian geometry.

The author follows up his discussion of the Kantian doctrine generally by a special study of the principle of causality. He finds in this principle three elements, (1) instinctive tendency, (2) notion of cause, (3) application of this notion to phenomena, and assigns to each of the three schools that have tried to solve the problem of causation the merit of having brought out one of these elements clearly. The notion of cause itself was correctly explained by the Scottish school as derived from the relation of will to movement; the application to phenomena was seen by the English experimental school to be immediately suggested by experiences of succession; while the *a priori* school was able to prove the presence of the element of instinctive tendency. This element, however, is not strictly *a priori*, but is derived from primitive anthropomorphism. The validity of the law of causation is proved by the impossibility of explaining the course of nature without it: the fact of change proves that it is objectively valid, that there is something in the matter of phenomena corresponding to our experience

of activity ; for if the causal nexus were simply a form imposed by the subject, we should explain by means of it all relations between phenomena, not merely those of succession.

Genesi della Filosofia morale contemporanea. Per GIACINTO FONTANA. Milano : Fratelli Dumolard, 1885. Pp. 222.

Experiential ethics, even as "ennobled by Fouillée and Spencer, the contemporary representatives of the positive school," does not answer to the true conception of morality (cc. i., ii.). The ethics of German transcendentalism, which substitutes for the "objective" conception of morals one which is "subjective and purely rational," leads to consequences similar to those that flow from "positivism" ; for the result of the development from Kant to Hegel as well as to Schopenhauer and Hartmann is (like the result of the "positive doctrines") monism and the denial of free-will (cc. iii., iv.). It is in Spinoza, whose thought was the outcome of all the scientific tendencies of the period before him, and whose presence is felt at every point in the development of later philosophy, that the origin of modern ethics finds its logical explanation (c. v.). The only means of escape from the fatal "practical consequences of contemporary moral systems" is a return to dualism and indeterminism (c. vi.).

Physiologie des Rechts. Von Dr. S. STRICKER, Professor an der Universität in Wien. Wien : Toeplitz & Deuticke, 1884. Pp. x., 144.

After treating psychology from the physiological point of view in previous works already noticed in MIND, Professor Stricker now goes on to investigate legal conceptions on the basis of results already gained. These results are summarised by him in Part i. (pp. 1-59, "Die Vernunft und das Gefühl"); his theory of law and its origin is developed in Part ii. (pp. 60-116, "Recht und Gesetz"); in Part iii. (pp. 117-144, "Strafe und Entschuldigung") it is made the foundation of a theory of punishment with special reference to "moral insanity". Here, as he himself points out, he returns to his own subject of pathology, from which he may have seemed to hold himself aloof in his psychological studies. The parts of his general theory that should be called to mind in relation to his treatment of law are that his physiological doctrine is on its psychological side a theory of association and that in his explanations of details he lays stress on "internal experience" (i.e., experience of activity). He maintains that the idea of "right" which is the basis of law has its origin (both in the individual and the race) in the feeling of power given in experience of muscular activity and in the feeling of restraint of this power by the power of others ; sympathy has some influence in promoting its development : on the intellectual side it has its origin in agreements or contracts (Verträge). Ideas derived from past experience of contracts, like all other ideas, have a certain normal mode of association. When this is disturbed there is a sense of wrong. "Moral insanity" is distinguished from actual criminality by the absence (in the morally insane) of a persistent plan of life carried out in opposition to the laws ; this difference justifies a different view of punishment in relation to ordinary criminals and to the morally insane. The author refers to Hume as having discussed before him the question whether the sense of justice has its origin in reason or in feeling, and as having arrived at analogous conclusions. His own investigations of morality and law, however, were not suggested by Hume but by Darwin.

Grundlagen einer Erkenntnistheorie. Von Dr. RICHARD VON SCHUBERT-SOLDERN. Privat-Docent an der Universität Leipzig. Leipzig : Fues (R. Reisland), 1884. Pp. 349.

In theory of knowledge the author sees the means of transforming

philosophy from "art"—the art of supplying defects of proved certainty by imagination—into science. He discusses, in six sections, "Problem of Transcendent Knowledge," "Concept and Thing," "The Conception of Truth and Logic," "Causality," "Space and Time," "Perception and Representation". All doctrines of a "transcendent object" are to be rejected. An important part in the explanation of belief in such an object outside consciousness is assigned to the fact that we become aware of the existence in other minds of objects resembling those in our own mind. The unity of the mind may be expressed in two ways, either as "the abstract *ego*" or "the concrete *ego*": the concrete *ego* is the organic feeling (*Gemeingefühl*) to which all particular feelings are related at any moment; the abstract *ego* is merely the expression of the fact that each feeling or reproduction of a feeling can be brought into relation with all the rest. Besides the point of view of the theory of knowledge there are two others (subordinate to it) from which the world may be regarded; that of psychology and that of natural science. Natural science deals with the world as perception (*Wahrnehmung*), psychology with the world as representation (*Vorstellung*). Perception cannot be treated as a perfectly independent thing any more than representation; as representation presupposes immediate experience, so perception presupposes reproduction of experience; without memory no form of experience is possible. In conclusion the author expresses the conviction that there can be no definitive theory of knowledge; any true theory of knowledge must advance along with the special sciences.

Literarische Fehden im vierten Jahrhundert vor Christus. VON GUSTAV TEICHMÜLLER, ordentlichem Professor der Philosophie in Dorpat. I. Chronologie der Platonischen Dialoge der ersten Periode. Plato antwortet in den "Gesetzen" auf die Angriffe des Aristoteles. Der Panathenais des Isokrates. II. Zu Platon's Schriften, Leben und Lehre. Die Dialoge des Simon. Breslau: Koebner, 1881, 1884. Pp. xv., 310; xviii., 390.

The centre of interest in these volumes is the author's discussion of the Platonic Dialogues in the light of his new view of Plato's doctrine and his new critical method. This method,—which gives its title to the book,—consists in investigation of the "literary quarrels" of Plato and his contemporaries as a means of fixing more accurately the chronology of the Dialogues. In the author's view, it has been too much the habit of former critics to regard each Dialogue as an artistic whole composed without reference to the circumstances of the time and without any external incitement. The presence of Socrates in the Dialogues has, besides, caused them to be interpreted as if they belonged to the fifth century. In reality we have to do always with Plato and his contemporaries; and we must remember that Plato was not primarily an artist but a philosopher, and a philosopher who aimed at having practical influence on his age. It is therefore likely that the Dialogues often had their immediate cause in literary works of the time expressing doctrines opposed to Plato's, or even written as attacks on him. Among his literary rivals were, for example, Antisthenes with his circle (Euthydemus, Lysias) and Isocrates. Comparison of other writings of the period with those of Plato from this point of view, accompanied by study of contemporary events as causes that might determine the composition of particular Dialogues, is an instrument of research that has hitherto been neglected. Those who employ this method will note all indications of Plato's personal life in the Dialogues, and will treat the literature of Anecdotes and Epistles in a not too sceptical spirit. Besides having a true conception of method, the student of Plato must have a conception of his

doctrine as a whole, and a point of view of his own from which to criticise as well as interpret it. In Mr. Benn's *Greek Philosophers*, Prof. Teichmüller sees evidence that others have independently come to take the broader historical view of Plato which he advocates. He replies incidentally (in vol. ii.) to Mr. Benn's arguments against his explanation of the doctrine of the immortality of the soul as taught in the *Phædo*. Consistently with his "pantheistic interpretation of Plato," he still holds that the doctrine of personal immortality had for Plato only the value of those myths whose meaning he approved of: in Plato himself immortality means permanence of the intelligible element of the soul; and he does not admit the transcendent isolation of this any more than of the sensible element. The central doctrine of Plato's whole system is that of *μετέξις*, union of being with becoming; being, or the ideal element, cannot exist apart from the flux of things: the older critics have not seen that this is implied in what is commonly taught as to Plato's combination of the doctrine of the Eleatics with that of Heraclitus. The author applies his new method to fixing the chronology of Aristotle as well as of Plato. He claims to have shown that in the *Laws* Plato replied to Aristotle's criticisms in the *Nicomachean Ethics*; that indeed passages from Aristotle are actually quoted in the *Laws*. As the *Theætetus* is a fixed point for determining the chronology of Plato, so the *Laws* will become a fixed point for determining the chronology of Aristotle.

Geschichte des gelehrten Unterrichts auf den deutschen Schulen und Universitäten vom Ausgang des Mittelalters bis zur Gegenwart. Mit besonderer Rücksicht auf den klassischen Unterricht. Von Dr. FRIEDRICH PAULSEN, a. o. Professor an der Universität zu Berlin. Leipzig: Veit, 1885. Pp. xvi., 811.

The parts of Raumer's *Pädagogik* and of the *Encyclopædia* of Schmid which deal historically with learned education in Germany being incomplete, especially as regards the Universities, Dr. Paulsen, well-known by his work on the historical development of Kant's theory of knowledge (1875), has devoted himself to filling up the blank that was thus left in literature. The present work is divided into three Books dealing respectively with the shaping of learned instruction under the influence of "the first humanism" and the Reformation (1500-1600); the changes during the period of Rationalism and Pietism (1600-1805); and lastly, "the time of the new humanism". In Bk. i., c. 1., a brief sketch is given of education in the Middle Ages. The author's own view as regards the future—important as coming from so distinguished a member of the Berlin philosophical faculty—is that the classical training given in the *Gymnasia* must be very much restricted. The power of reading Latin will always remain essential; but classical education in the older sense will become a specialty of philologists. Not mathematics and natural science, but German (with other modern languages) and philosophy, are to replace it. Modern culture, although having its origin and its basis in ancient culture, first as continued in the Middle Ages by the Church, afterwards as rediscovered in its earlier and typical form by the Renaissance, has now become an independent culture, itself capable of affording all the materials for a complete education. As a means of bringing about the changes he desires Dr. Paulsen does not propose new examinations, but rather the suppression of some of the present ones. He thinks it unfortunate, however, that no preliminary philosophical instruction should be given in the *Gymnasium*: for at present, through its postponement to the University, those who do not make a specialty of philosophy hardly come in contact with it at all; the specialisation of "the philosophical faculty" (the old "faculty of arts"),

of which philosophy, properly so called, is only a branch co-ordinate with the natural sciences, philology, &c., being now complete. This change in the position of philosophy, no longer obligatory even on non-professional students at the University, and yet absent from the Gymnasium,—a change which was not completely effected till the present century (the Renaissance having left philosophical instruction almost where it was in the Middle Ages),—is explained by the author as due in part to the less fitness of modern philosophy as compared with the scholastic philosophy for being taught by text-books, and to its division (since Kant) into schools. His own opinion, however, is that the difficulties in the way of making philosophical training a part of all high education can be surmounted.

Kant's Dinge-an-sich und sein Erfahrungsbegriff. Eine Untersuchung von M. W. DROBISCH. Hamburg and Leipzig: Leopold Voss, 1885. Pp. v., 53.

Kant's intention in his doctrine of things-in-themselves was to make his theory of knowledge independent of the question as to their reality. The conception of the thing-in-itself is a limiting conception, not an affirmation of the real existence of a noumenal world. The application in the theoretical philosophy of the category of causality to things-in-themselves is to be explained by the distinction between thinking (Denken) and knowing (Erkennen); the thing-in-itself is "thought," but not "known," as a cause. Through his mode of affirming this limiting conception, Kant, in his doctrine of experience, came very near "subjective idealism"—the derivation of the matter as well as the form of knowledge from an activity of the subject. The author contends that, for the categories to be applied to experience at all, not only the "matter" but "the determinate form of objects of experience" must already be "given". In restoring the "realistic" element which Kant tended (in consequence of his mode of statement) to suppress, he trusts that, although "an old Herbartian," he is not interpreting Kant from an external point of view, but correcting his doctrine in the sense in which he himself would have desired to correct it.

Das Endergebniss der Schopenhauer'schen Philosophie in seiner Uebereinstimmung mit einer der ältesten Religionen dargestellt. Von Dr. DAVID ASHER. Leipzig: Arnoldische Buchhandlung, 1885. Pp. 100.

The author is already known as an enthusiastic advocate of Schopenhauer's philosophy, who, however, declines to accept pessimism as a deduction from the doctrine of Will. He here puts forth an idea which he had arrived at thirty years since but has not hitherto published, *viz.*, that the central doctrine of Judaism in its earliest form,—which he takes to be that of the Pentateuch,—is identical with Schopenhauer's doctrine of "the will to live"; the God of Moses being essentially the principle of life, and being always conceived as a will. It is shown how the idea of life as the essence of things was developed by the Jewish philosophers of the Middle Ages, and especially by Avicbron in the celebrated *Fons Vitæ*. In dealing with the ethical applications of this idea, Dr. Asher recapitulates the proofs that not only in the Mosaic books, but in the other books of the Bible, and also in the Rabbinical writings, length and fullness of life are represented as the reward of good action: by "life" being meant life on earth, since neither the Pentateuch nor any book of the Old Testament teaches the doctrine of immortality. Although a Jew by race, the author is not himself an adherent of orthodox Judaism, and his work is addressed only to those who have rejected Jewish and Christian theology. One object of his book is to protest against Schopenhauer's antipathy to Judaism, which he ascribes, with Schopenhauer himself, to its optimistic character. Dr. Asher

would reconcile religion and philosophy by not admitting a permanent distinction between philosophy and religion in any sense; we are to look forward to a time when action proceeding from a reasoned view of things will be possible for all and not merely for philosophers. His view is essentially that of "evolutionist ethics"—that life is in itself good, and that life and increase of life should be made the end of effort both for the individual and the community.

Die Sprache als Kunst. Von GUSTAV GERBER. Zweite Auflage, Erste—Fünfte Lieferungen. Berlin: Gaertner, 1884, 5. Pp. 561.

Die Sprache und das Erkennen. Von GUSTAV GERBER. Berlin: Gaertner, 1884. Pp. 336.

The second of these works carries farther the general view of speech that was given in the earlier one, half of which has now reappeared in a second edition issued by parts. Speech as a product of "naïve art" by which ideas of objects are conveyed from one mind to another, is distinguished from "natural sounds," that is, mere signs of emotion, such as are used by animals. Words, however, taking their character in part from the feelings of those who create them, do not reproduce actual things, but transform the real world into an ideal world. Having once been created by the free activity of individuals, speech reacts on the individual through the race, and becomes knowledge—a knowledge which is common to all. The sentence (*Der Satz*), not in its grammatical form but in its form as root (*Sprachwurzel*), is the first product of the creative activity of man expressing itself in speech. Here knowledge is already implied; man has placed himself in a "theoretical" relation to objects. Speech itself gives the impulse to strive after a more exact knowledge of the world as it is, to make the sentence—the element of speech—a judgment expressing the truth of things. From first to last the character of speech as art is stamped on our knowledge. "It is speech that manifests the essence of man in relation to the universe." The general result of the author's criticism of knowledge from this point of view is that the categories of knowledge for the speech of the individual are the representation (1) of the empirical *ego*, (2) of movement in time and space, (3) of the relation of cause and effect; expressed in (1) the subject, (2) the predicate, (3) the copula. These categories are to be taken in the sense of Kant rather than of Aristotle; for although Aristotle's as well as Kant's deduction of the categories has its roots in speech, Aristotle's deduction was from isolated words, while Kant's was from the judgment as expressed in the sentence. From the deduction of the categories (cc. i.-iv.) the author goes on to consider speech as a social product (c. v.). Having so far treated it as a product of the activity of the individual and the race under the influence of external things, he next proceeds to consider it as at the same time a product of the activity of the subject passing outwards (c. vi.). Kant's distinction between *Wahrnehmungsurtheile* and *Erfahrungsurtheile* then leads to a closer consideration of the copula in the two kinds of judgment (c. vii.). Finally a summary of results is given and doctrines of the *ego*, especially those of Kant, Fichte and Schopenhauer, are discussed in the light of the author's view (c. viii.).

Ueber tragische Schuld und Sühne. Ein Beitrag zur Geschichte der Ästhetik des Dramas. Von Dr. JULIUS GOEBEL. Berlin: Duncker (C. Heymons), 1884. Pp. 108.

The true conception of "tragic guilt" is not to be found in the Greek drama, but first appeared in Shakespeare; although we must not expect to find it so consciously present to the mind of "the naïve Homer of the modern drama" as to the mind of "the philosopher of the nineteenth century". The ancient dramatists never got rid of the idea of an inexplicable

fate; but in order that there should be real individual guilt the hero of the drama must be conceived as possessed of free-will and as trying to affirm his own personality against the moral order of the world. The conception of tragic guilt is therefore not, strictly speaking, Teutonic, for the idea of an inexplicable fate is present in the earliest German as well as Greek legends; it is rather a Christian conception. The author traces its gradual appearance first in the "speculative æsthetic" of Solger, Hegel, Vischer, &c., the results being confirmed by "die empirische Shakespeare-forschung"; then in the classical writers of Germany (Lessing, the "Sturm und Drang" period, Herder, Goethe and Schiller); finally he criticises in an appendix the æsthetic doctrines of Schopenhauer and his more recent disciples.

Ueber das Gedächtnis. Untersuchungen zur experimentellen Psychologie. Von HERM. EBBINGHAUS, Privatdocenten der Philosophie an der Universität Berlin. Leipzig: Duncker & Humblot, 1885. Pp. ix., 169.

These researches carry forward to the investigation of Memory the method of experiment and exact measurement that has already yielded results in the psychology of sensation and in the determination of the time taken up by mental processes. Critical Notice will follow.

Grundriss der Psychologie. Von DR. GUSTAV GLOGAU, o. ö. Professor an der Universität zu Kiel. Breslau: Koebner, 1884. Pp. vi., 235.

This volume grew out of a wish of the author's students for a comprehensive *Dictat* of his lectures, but it aims also at interesting a wider class of readers. Critical Notice will follow.

RECEIVED also :—

J. H. Godwin, *Active Principles; or Elements of Moral Science*, Lond., Jas. Clarke, pp. xii., 304.

G. Jamieson, *Profound Problems in Theology and Philosophy*, Lond., Simpkin, Marshall, pp. xxix., 629.

J. McCosh, *Development; What it can do and what it cannot do*, Edinb., T. and T. Clark, pp. 50.

H. J. Clarke, *The Fundamental Science*, Lond., Kegan Paul, Trench, pp. xxiv., 265.

Proceedings of the Society for Psychical Research, Pt. vii., Lond., Trübner.

J. S. Reid, *M. Tullii Ciceronis Academica*, Lond., Macmillan, pp. x., 371.

W. H. Pater, *Marius the Epicurean: his Sensations and Ideas*, 2 vols., Lond., Macmillan, pp. 260, 246.

S. Monckton, *The Metaphysical Aspect of Natural History*, London, H. K. Lewis, pp. 51.

N. Porter, *The Elements of Moral Science, Theoretical and Practical*, London, Sampson, Low, & Co., pp. xxv., 574.

C. E. Lowrey, *The Philosophy of Ralph Cudworth*, New York, Philips, Hunt; Cincinnati, Cranston, Stowe, pp. 212.

F. W. Kelsey, *T. Lucretii Cari De Rerum Natura Libri Sex*, Boston, Allyn, pp. lvii., 385.

G. Sergi, *L'Origine dei Fenomeni psichici e loro Significazione biologica*, Milano, Dumolard, pp. xxv., 454.

M. L. Stern, *Philosophischer u. naturwissenschaftlicher Monismus*, Leipzig, Th. Grieben (L. Fernau), pp. iv., 348.

NOTICE of some of these (received too late) is deferred till next No.

VII.—NOTES AND CORRESPONDENCE.

SUPPLEMENTARY NOTE ON HALLUCINATIONS.

There is one topic on which I may perhaps be allowed a few words of supplement to my article in the present No., as it has a distinct bearing on the centrifugal origin of hallucinations. There is a class of phenomena, not yet recognised by science, and for which the evidence has never yet been presented with anything like convincing fulness; but which—I do not think it rash to say—will be accepted as genuine by a large number of persons who quite realise the strength of the *a priori* presumption against it, whenever the quantity and quality of the evidence shall be adequately realised. It is at any rate accepted already, by a considerable number of such persons, as having a strong *primâ facie* claim to attention; and this, being a matter of fact and not of opinion, may justify the mention of it here. It is the *telepathic* class—hallucinations of sight, sound or touch, which suggest the presence of an absent person, and which occur simultaneously with some exceptional crisis in that person's life or, most frequently of all, with his death. Visual and auditory phantasms occurring at such moments may be conveniently termed *veridical* hallucinations; for while they are completely delusive as far as the percipient's senses are concerned—while they completely conform to our definition, “sensory percepts which lack the objective basis which they suggest”—they nevertheless have a definite correspondence with certain objective facts, namely, the exceptional condition of the absent person. Such cases, if genuine, militate very strongly against M. Binet's theory that excitation from the external sensory apparatus is a *sine quâ non* of hallucinations. For here the occurrence of the hallucinations depends on the distant event; that is what fixes it to occur at a particular time; and it is specially hard to suppose an occurrence thus conditioned to be conditioned also by the accidental presence of real phenomena capable of supplying *points de repère*, or on an accidental morbid disturbance of the organ or the nerve. And if the brain be admitted to be the primary physical seat of the phenomena, there are, further, good reasons for supposing that its highest tracts are those first affected, and so that the hallucination is centrifugal. The chief reasons are two. (1) The phantasm is often bodied forth with elements of a more or less fanciful kind—dream-imagery, so to speak, embroidered on a groundwork of fact; and these elements seem clearly to be the percipient's own contribution, and not part of what he receives. (2) Cases occur where actual intercourse between the two persons concerned has long ceased; and where the supersensuous communication can only be supposed to be initiated by the quickening of long-buried memories and of dim tracts of emotional association. The hallucination in these cases would therefore be a complete example of the projection of an idea from within outwards; the sensorium reverberates to a tremor which must start in the inmost *penetralia* of cerebral process.

But I would specially point out that this argument does not extend beyond the limits of the percipient's organism. It involves no physical expression of the fact of the *transmission*. If A is dying at a distance, and B sees his form, it is rarely that one can suppose any psychical event in A's mind to be identical with any psychical event provocative of the hallucination in B's mind. That being so, there will be no simple and immediate concordance of nervous vibration in the two brains; and that being so, there is

no very obvious means of translating into physical terms the causal connexion between A's experience and B's. The case thus differs from "thought-transference" of the ordinary experimental type, where the image actually present in the one mind is reproduced in the other; where, therefore, a physical concordance does exist, and something of the nature of a "brain-wave" can be conceived. This was quite rightly pointed out in the notice of the *Proceedings of the Society for Psychical Research* which appeared in MIND XXXVI. But it had also been pointed out by Mr. F. W. H. Myers and myself in the "Theory of Apparitions" there criticised. In our *rapprochement* of veridical hallucinations to experimental thought-transference, we are confining ourselves to the *psychical* aspect; we connect the phenomena as being in both cases affections of one mind by another occurring otherwise than through the recognised channels of sense. The objector may urge that if we have not, we ought to have, a *physical* theory which will embrace all the phenomena; but to this we demur. I venture to suggest that the action of brain on brain is not bound to conform to the simplest type of two tuning-forks; and that a considerable community of experience (especially in emotional relations) between two persons may involve nervous records sufficiently similar to retain for one another some sort of revivable affinity. But, however that may be on the physical plane, the facts of which we have presented and shall continue to present evidence are purely *psychical* facts; and on the psychical plane, we can give to a heterogeneous array of them a certain orderly coherence, and present them as a graduated series of natural phenomena. Will it be asserted that this treatment is illegitimate unless a concurrent physical theory can also be put forward? It is surely allowable to do one thing at a time. There is an unsolved mystery in the background; that we grant and remember; but it need not perpetually oppress us. After all, is there not that standing mystery of the cerebral and mental correlation in the individual—a mystery equally unsolved and perhaps more definitely and radically insoluble—at the background of every fact and doctrine of the recognised psychology? The psychologists work on as if it did not exist, and no one complains of them. May we not claim a similar freedom?

EDMUND GURNEY.

VERTIGO OF DIRECTION.

I venture to submit the following observations as a contribution to determining whether M. Binet's "Vertigo of Direction" as described in MIND XXXVII., 156 (cp. XXXIV., 217) is really a pathological phenomenon, and if so, in what respect.

(1) It should be made quite clear whether the persistent misjudgment of direction has arisen or can have arisen, in the cases relied on, from an error in 'dead reckoning,'¹ i.e., in remembrance or estimation of antecedent changes of position. M. Binet's correspondent shows this to be the cause in all his cases, though his *illustration* suggests an error arising without reasonable cause. Mr. Forde's letter (*Nature*, April 17, 1873) is compatible

¹ Cp. Charles Darwin in *Nature*, April 3, 1873. This must, I think, be the article to which M. Binet refers as Prof. Geo. Darwin's. Prof. Geo. Darwin wrote on a kindred subject in *Nature*, May 1, 1873, but did not allude to *persistent* errors of direction. M. Binet's phrase "weakly and aged" must have arisen by translation and retranslation out of Charles Darwin's 'old and feeble'.

with either view. I could supply from my own experience plenty of instances in which a degree of bewilderment, though less intense than that described in M. Binet's note, has arisen from an error in 'dead reckoning'; but none without such an error, except the curious fancy that a train, when it enters a tunnel, begins to run backwards. Here, I take it, one reasons fallaciously from negation of the antecedent (apparent motion of objects seen through the window) to negation of consequent (motion of train in the direction so indicated). This is more akin to an illusion of sense than M. Binet's cases, but is clearly, I think, inferential.

(2) If the cause of contradiction lies in an inference from antecedent circumstances, it should be carefully considered whether the judgment of perception is in error at all, and whether terms are really applicable which indicate a morbid condition of the common activity of perceptive judgment. I mean such terms as "seizure" (Mr. Forde), "accès," "vertige," "saisissement," "illusion," "hallucination". Darwin's suggestion, as I shall point out below, implies something different from all this. No doubt it appears from his remarks and from Mr. Forde's letter that infirmity and fatigue are connected with the persistent mistakes in question; but it is possible that they may act not by derangement of the perceptive activity (which, as I read M. Binet's correspondent, is *absolutely normal*) but by causing a failure of attention or memory in keeping the 'dead reckoning'; by interfering with the muscular sense,¹ which helps us in this reckoning; and perhaps through mere nervousness and timidity which allow an apparent contradiction to prey upon the spirits.

(3) If the error is so persistent or so ill-grounded that it obviously indicates an abnormal state of mind, then it still remains to be considered whether the proper term for it as a pathological phenomenon is not rather *delusion* as morbidly abnormal belief founded on inference, than *illusion* or *hallucination*, as morbidly abnormal sense-perception. I agree with M. Binet that sense as such is neither true nor false, and that only judgment can be true or false. But though all perception which can be true or false is judgment, yet all judgment is not sense-perception. And in the cases as described I can trace no error of sense-perception.

As at present instructed, then, I am inclined to doubt whether the erroneous beliefs in question are pathological phenomena, except in the general sense in which intellectual weakness or decay is a matter of pathology. Darwin's suggestion that 'some part of the brain may be specialised for the function of direction' does not conflict with the idea that this function may be a reckoning and not a sense. On the contrary, the importance which he attaches to 'dead reckoning' and to the sense of muscular movement tallies with the notion which my own experience has led me to form. I have frequently been able to trace the error which has caused a misjudgment of the kind under discussion.

One word more. Delusions often react on sense-perception and so generate illusions. (A man thinks he is a king and sees his rags as robes.) I do not gather that this phenomenon is alleged here. If M. Binet's correspondent had fancied he *saw* some object, which should be on the road to Neuilly, in the direction of his *visible* Arc de Triomphe, it would have been a clear case of illusion. But any such confusion within the field of perception is here conspicuous by its absence.

BERNARD BOSANQUET.

¹ See Darwin's article cited above. An error caused by dulness of the muscular sense, though in itself an error of direct perception, is for our present purpose an antecedent circumstance and premiss of inference.

THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY.—The last meeting before Christmas continued the discussion of Schopenhauer's *World as Will and Idea*, the subject being introduced by a paper from Mr. A. F. Lake. The first meeting of the new year was held on Jan. 12, when a paper by Miss C. E. Plumtre on "Lucilio Vanini: His Life and Philosophy," was read and discussed. Jan. 26: Schopenhauer discussion carried to end of his Second Book; paper read by Mr. P. Daphne. Feb. 9: Paper read by Mr. C. C. Massey on "Dr. C. M. Ingleby's Formula of Reciprocal Causation in Sense-perception," which was followed by a discussion. Feb. 23: The Third Book of Schopenhauer's *World as Will, &c.*, was entered on by a paper from Mr. W. E. Beeton, which was followed by a discussion.

We are asked to state that the meetings of "THE PHILOSOPHICAL SOCIETY" are now held (by permission of the Trustees) at Dr. Williams's Library, Grafton St., upon the fourth Thursday of each month. This Society has entered successfully upon its second session and, in its new quarters, promises to become permanently established. It exists for the purpose of discussing freely, and from many points of view, the problems which philosophy presents for solution. Last session, the Society was chiefly occupied in examining Green's *Prolegomena to Ethics*; during the present one it has been engaged hitherto upon Mr. Herbert Spencer's *Psychology*. It would welcome an accession of members, particularly of country members who would be willing, in conformity with one of its rules, to transmit from time to time communications upon subjects of philosophical interest. Gentlemen desiring further information should communicate with the Hon. Sec., the Rev. Fred. W. Ford, 80 Church Road, Islington, N.

THE JOURNAL OF SPECULATIVE PHILOSOPHY.—Vol. XVIII., No. 2. G. S. Fullerton—Space of Four Dimensions. S. E. Blow—Dante's *Inferno*. F. E. Abbot—The Moral Creativeness of Man. Fichte—Facts of Consciousness (trans.). J. Dewey—Kant and Philosophic Method. Hegel—Introduction to the Philosophy of Religion (trans.). A. D'Orelli—Kym's 'Problem of Evil'. W. T. Harris—Dialectic Unity in Emerson's Prose. Notes and Discussions. Book Notices.

REVUE PHILOSOPHIQUE.—An. X., No. 1. A Binet et Ch. Féré—L'hypnotisme chez les hystériques: i. Le transfert psychique. P. Tannery—La théorie de la matière d'après Kant. G. Pouchet—La biologie aristotélique (iii.). Rev. générale (L. Dauriac—Moralistes anglais contemporains). Analyses et Comptes-rendus. Rev. des Period. Correspondance (G. Lechalas, P. Tannery et Ch. Richet—La suggestion mentale et le calcul des probabilités. F. Paulhan et L. Montchal—Les images motrices). No. 2. H. Lachelier—Les lois psychologiques dans l'école de Wundt. E. Beaussire—Les principes formels et les conditions subjectives de la moralité. G. Pouchet—La biologie aristotélique (iv.). Analyses, &c. (J. Sully, *Outlines of Psychology, &c.*). Variétés (G. Séailles—La causalité d'après David Hume). No. 3. Sikorski—L'évolution psychique de l'enfant: i. Les sentiments. A. Binet et Ch. Féré—Hypnotisme et responsabilité. P. Regnaud—L'idée de temps: Origine des principales expressions qui s'y rapportent dans les langues indo-européennes. G. Pouchet—La biologie aristotélique (fin). Notes et Discussions (Bernheim—Sur l'hypnotisme chez les hystériques). E. Rabier—La causalité d'après Hume. Analyses, &c. (A. Seth, *The Development from Kant to Hegel, &c.*). Rev. des Périodiques. Variétés (Hylas—Un problème de métaphysique, &c.).

LA CRITIQUE PHILOSOPHIQUE.—An. XIII., Nos. 44-52. W. James—Le

dilemme du déterminisme (44, 46, 49). F. Pillon—Sur le matérialisme à outrance de M. Richepin (49, 51); A propos de la notion de nombre: Réponse à M. George Noel (51, 52). Nouvelle Série (see MIND XXXVII., 158), An. I., No. 1. C. Renouvier—Philosophie, science et criticisme. L. Dauriac—La philosophie au collège. A. Schlösing—Philosophie de l'apocalypse. C. Renouvier—La critique littéraire de la *Critique de la raison pure*. . . . F. L. Ogereau—Remarques sur quelques points de la morale stoïcienne au sujet d'un livre récent. . . . No. 2. C. Renouvier—Les problèmes de l'esthétique contemporaine: L'esthétique du jeu. F. Pillon—La formation des idées abstraites et générales. L. Dauriac—La science du beau et le génie. C. Renouvier—La critique littéraire, &c. (suite). E. Pécaut—Notes et réflexions sur la méthode en pédagogie. . . .

LA FILOSOFIA DELLE SCUOLE ITALIANE.—Vol. XXX., Disp. 3. L. Ferri—Una lezione elementare di psicologia: I fatti psichici e i fatti fisici. A. Martinazzoli—Di un poema filosofico del 500 dimenticato dagli italiani. A. Macchia—Pensieri di filosofia: Positivismo e libertà del volere. A. Chiappelli—Ancora sopra Panezio di Rodi e il suo dubbio sulla autenticità del *Fedone* platonico. Bibliografia, &c.

RIVISTA DI FILOSOFIA SCIENTIFICA.—Vol. IV., No. 2. R. Acanfora-Venturelli—Studi di psicofisica: Sulla legge della sensazione di Bernstein. G. Bonelli—Sulla nozione d'individuo in biologia. V. Cervello e F. Coppola—Studi di psicologia sperimentale: Ricerche sulla durata degli atti psichici elementari sotto l'influenza delle sostanze ipnotiche (paraldeide e cloralo). F. Giulio—La fisiologia quale scienza autonoma. Rivista analitica, &c.

ZEITSCHRIFT FÜR PHILOSOPHIE, &c.—Ed. LXXXVI., Heft 1. J. Nathan—Die Grundbegriffe der Moral: Die Realität der moralischen Handlungen. J. Frohschammer—Wille oder Phantasie? Kritische Parallele zur Würdigung der Philosophie A. Schopenhauers. J. Döderlein—Warum hat der Raum drei Dimensionen? C. Th. Isenkrahe—Das Unendliche in der Ausdehnung. E. v. Hartmann—Krause's Ästhetik. Recensionen. Bibliographie.

PHILOSOPHISCHE MONATSHEFTE.—Bd. XXI., Heft 1. G. Hartung—Hartmann u. Lotze; Eine metaphysische Studie. E. Pfeleiderer—Noch einmal Leibniz u. Geulinx. Recensionen u. Anzeigen (G. J. Stokes, *The Objectivity of Truth*; J. Th. Merz, *Leibniz*, &c.). Bibliographie, &c. Heft 2, 3. Koppelman—Kant's Lehre vom analytischen Urtheil. E. v. Hartmann—Philosophie u. Christenthum. Recensionen u. Anzeigen. Bibliographie, &c.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE.—Bd. IX., Heft 1. K. Kroman—Ueber Wesen u. Bedeutung der Philosophie. G. v. Gizycki—Moralische Beurtheilung. F. Dahl—Versuch einer Darstellung der psychischen Vorgänge in den Spinnen (i.). Anzeigen (H. Sidgwick, *The Methods of Ethics*, 3rd ed., &c.). Selbstanzeigen, &c.

PHILOSOPHISCHE STUDIEN.—Bd. II., Heft 3. E. Kraepelin—Zur Psychologie des Komischen (Schluss). G. Dietze—Untersuchungen über den Umfang des Bewusstseins bei regelmässig auf einander folgenden Schalleindrücken. G. Lorenz—Die Methode der richtigen u. falschen Fälle in ihrer Anwendung auf Schallempfindungen. V. Estel—Ueber die Frage des Weber'schen Gesetzes u. Periodicitätsgesetzes im Gebiete des Zeitsinnes. W. Wundt—Zur Kritik des Seelenbegriffes.